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ABSTRACT

The Arizona Department of Education designed this curriculum guideline to aid teachers in planning programs that provide opportunities for students of all ages to comprehend, identify, apply, and analyze housing and life styles. The topics concentrated on are: nature and housing of man, housing as a modification of environment, effects of housing on people, expression and creativity through design of housing and furnishings, consumer decisions related to housing, exploration of professional and supportive careers related to furnishing and housing, and general appendixes for teacher reference. Each topical outline contains educational objectives, conceptual statements, and grade levels (K-6, beginning, intermediate, advanced, and post secondary). In addition each outline is provided with a bibliography and curriculum materials list. (BP)

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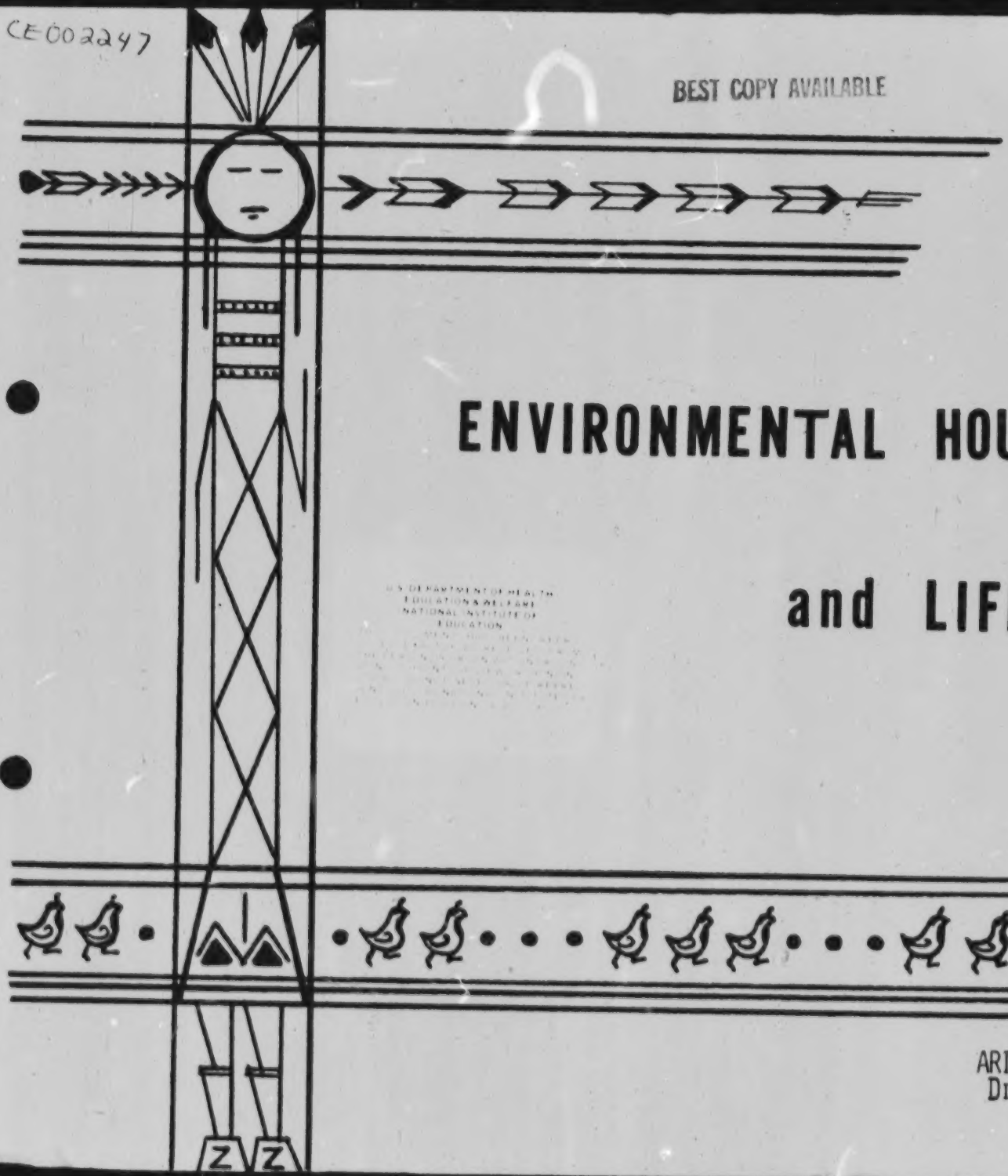

ENVIRONMENTAL HOUSING

and LIFE STYLES

U.S. DEPARTMENT OF HEALTH
EDUCATION & WELFARE
NATIONAL INSTITUTE OF
EDUCATION

ARIZONA DEPARTMENT OF EDUCATION
DIVISION OF VOCATIONAL EDUCATION
HOME ECONOMICS EDUCATION

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ENVIRONMENTAL HOUSING

AND

LIFE STYLES

CURRICULUM GUIDELINES

Prepared
by
Home Economics Section
Division of Vocational Education
Department of Education
1333 West Camelback Road
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85013

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FOREWORD

"What is gained if a man's house and garden are splendid, but traffic, jets, and smog-laden air assault his enjoyment of them? No fence is high enough to protect a house from those intruders. What is gained, moreover, if a man's house and garden are remote from his work, distant from fine schools, far from good theatre, removed from the discourse good government requires? No house, however fine, can stand alone. It requires a whole and healthy environment to support it and, hopefully, to enhance it. It is the physical and social environment that makes a house more than mere shelter." So says the March, 1968 House and Garden.

The shelter an individual or family selects and the manner in which the environment is modified by day to day living establishes the life style or mode of living unique to that person or group. These curriculum guidelines, Environmental Housing and Life Styles are designed to aid teachers in planning programs that provide the opportunity for students of all ages to:

Comprehend - the basic housing needs of people,
the efforts of man to modify his environment,
the present and future trends in urban and rural housing,
the effects of housing on people and the resulting quality of living assumed by each individual,
the role of housing in relation to cultural heritage, stage in the family life cycle, and the evolving life style of an individual or family,
the need for creativity in surroundings as a satisfying means of self expression,
the technology of present and future design materials and methods of constructing housing,
the need for maintenance and repair, and
the career opportunities related to housing and furnishings.

Identify - - the levels of quality in housing, furnishings and equipment for the home, and the relationship of quality to the living style of an individual or family.

Apply - - - design principles creatively by relating his values, heritage and resources toward providing a satisfying life style,
principles of decision making to selection of housing and furnishings, and
knowledge and skill to create beauty as well as utility in the home.

Analyze - - the effect of various cultural patterns on the development of housing and furnishings in Arizona,
housing problems in relation to the needs and desires of people, and
the allocation of human and material resources to providing the components of housing.

The Home Economics Staff through the publishing of these curriculum guidelines establishes a realistic and futuristic approach to people learning as to how best meet their housing needs in relation to their desires and resources. By adapting these materials, the teacher through in-service education designs his custom curriculum for that part of Arizona where he finds himself.

Eugene L. Dorr

E. L. Dorr, Associate Superintendent for Career Education and Director of Vocational Education

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INTRODUCTION

Housing is a reflection of man's modification of his environment. To the extent that man has desired to live more comfortably away from the elements of his surroundings, he has selected his shelter. Man chooses his housing from alternatives ranging from the tent for camping to the penthouse atop a high rise building. Man has never before enjoyed such a privilege for being so individual. He may temporarily select a life style which communes with nature and the following week a style which alludes to nature only in the distant clouds on the horizon beyond the tall buildings of the cement and steel of the city. Some individuals have elected to adopt family living patterns and an environment which are simple and with little show of materialism. On the other hand the migrant farmer may wish for more modification of nature than is available to him; but he could choose the inner city rather than the country in which to abide. Many Indians continue to prefer the simple life of the wide open reservation land to the confines of the city and continue to live much like their forefathers. The senior citizen may choose to live in a condominium, even a retirement community, or be forced to live with children in a setting quite different from previous surroundings, as would be expected as the individual moves from one phase of the family life cycle to another.

The individual's or family's heritage and culture play an important part in the attempt to creatively adapt to the environment. The Indian and the Mexican-American in Arizona both have rich cultural backgrounds which not only influence the surroundings of these individuals but also those living around them. This is not to say that environment is totally a product of man but that more alternatives have been made available originally by nature.

In 1968 the conclusions of the International Federation of Interior Designers Proceedings indicated this group's concern that designers be concerned with the total of man and his environment and that man's desire for shelter was both physical and psychological. The sociological needs of man as a part of a community are also recognized. No longer should homes reflect only aesthetic design but also the individual's and family's personality. This theory extended to the dwelling, its surroundings whether this be a city, a town, or a rural area. Each is an integral part of the total environment and should be considered as such.

Home Economics in its attempt to assist people in their efforts toward self-actualization must concern itself with understanding the effect of living patterns of individuals and families in their ability to adapt to their constantly-changing living environment. Individuals are affected by their living conditions and need to have guidelines for decisions in these areas. Lifetime feelings about other members of the family, other people, the world beyond home, even long-range goals are profoundly influenced by the housing in which one lives. Even the possibility for interplanetary travel becoming more a reality within the next decade has its impact.

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	SUGGESTED SEQUENCE				
	K-6	Beginning	Intermediate	Advanced	Post-Secondary-Adult
1.0 Nature and Housing of Man					
1.1 Interrelatedness of Housing and Man	x	x	X*	X	x
1.2 Structural Limitations	x	X	x	x	
2.0 Housing As A Modification of Environment					
2.1 Natural, Human and Material Resources	x	x	x	x	
2.11 Natural	x	X	x		
- Climatic					
- Geographic					
2.12 Material		x	X	x	x
- Economic					
- Technological					
2.13 Human		X	x	x	x
- Expression of Values Through Housing					
. Individual					
. Neighborhood					
- Various Living Patterns of Housing		X			
. Family Life Cycle					
. Varying Life Cycles					
- Effect of Cultural Factors on Housing		X	x	x	x
2.2 Housing Policies					
2.21 Influence of Housing Policy on Individual and Community				x	x
- Background of Public Policy Concerning Housing in the U.S.				x	x
2.22 Influence on Housing Policy				x	x
- Individuals Collectively in Society					
- Individual				x	x
2.23 Building Codes and Zoning Ordinances				x	x
2.3 Trends in Urban and Rural Housing					
2.31 Influencing Factors				X	x
2.32 Current Trends		x	x	X	x
2.33 Future Trends			x	X	x

* Large X's indicate the level for which major emphasis has been given to topic. Other x's indicate other level at which materials are provided.

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	K-6	Beginning	Intermediate	Advanced	Post-Secondary-Adult
2.4 Housing Problems					
2.41 Types of Housing Areas				X	x
3.0 Effects of Housing on People					
3.1 Effects of Housing on Life Styles and Living Patterns		x	x	X	x
3.2 Effects of Housing on Basic Needs of People					
3.21 Physical Health and Safety		x	x	X	x
3.22 Social and Emotional Needs		x	x	X	x
3.23 Use of Available Resources		x	x	X	x
3.3 Effects of Housing on the Communication of People		x	x	X	x
4.0 Expression and Creativity Through Design of Housing and Furnishings		X	X	x	
4.1 Design Principles and Elements					
4.11 Elements of Design		X	X		
4.12 Principles of Design		X	X		
4.13 Integrity of Design and Materials		X	X		
4.2 Designs for Housing					
4.21 Architectural Design		x		X	
- Influence of Design History			X		
- Influence of Contemporary Architects and Designers			X		
- Influence of New or Technologically Changed Resources		x		X	
4.22 House Plans					
- Living Areas		x	x	X	x
- Storage Areas		x	x		
4.3 Achievement of Beauty in Housing and Furnishings					
4.31 Styles, Trends and Fads			X	x	
4.32 Selection of Design			x	X	
4.33 Application of Design		x	x	X	

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	K-6	Beginning	Intermediate	Advanced	Post-Secondary-Adult
5.0 Consumer Decisions Related to Housing					
5.1 Decision-Making Process		x	x	x	x
5.2 Consumer Decisions in the Selection of Housing					
5.21 Location of Housing		x	x	X	x
5.22 Types of Housing		x	x	X	x
5.23 Quality of Housing		x	x	X	x
5.24 Financing		x	x	X	x
- Rental vs. Ownership					
- Technology					
5.3 Advancements Influencing Housing Decisions		x	x	X	x
- Technology and Design Theory					
- Materials and Methods of Construction					
5.4 Consumer Decisions Related to Furnishings and Equipment		x	x	x	x
5.41 Available Products and Factors of Consideration		x	X	x	x
5.42 Furnishings		x	X	x	x
5.43 Equipment		x	X	x	x
5.5 Consumer Decisions Related To Services, Care, Maintenance, Repair, Refinishing and Refurbishing		x	x	x	x
5.51 Use of Services			x	X	x
5.52 Care and Maintenance		x	X	x	x
5.53 Repairs		x	x	X	x
5.54 Refinishing and Refurbishing		x	X	x	x
6.0 Exploration of Professional and Supportive Careers Related to Housing and Furnishings			x	x	
6.1 The World of Work			x	x	
6.11 Employment					
6.12 Changing Roles of Men and Women	x	X	x		
- Dual Roles					
- New Roles					

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	K-6	Beginning	Intermediate	Advanced	Post-Secondary-Adult
6.2 The Housing and Furnishings Industries			x	x	
6.21 History			x	x	
6.22 Growth and Current Trends			x	x	
6.23 Necessary Abilities and Attitudes	x	X	x	x	
- General					
- Specific					
6.3 Professional and Supportive Careers	x	X	x	x	

Christine Salmon, AIA, AID, and keynote subject matter consultant for the 1971 housing curriculum workshop, developed "The Matrix of Housing" to serve as a criteria for evaluating objectives suggested in Environmental Housing and Life Styles. The design suggests that objectives can be analyzed in terms of the elements of housing as well as the context in which they are used. The elements of housing include human, aesthetic, physical/chemical and economic factors. Contexts include universal usage (nature), community usage (cultural, social/political), and individual usage (psychological). Communication advances is another factor for consideration in evaluating objectives.

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MATRIX OF HOUSING

ELEMENTS OF HOUSING	CONTEXT	HUMAN	AESTHETIC	PHYSICAL CHEMICAL	ECONOMIC
		OBJECTIVES			
UNIVERSAL	TOPICS				
COMMUNITY					
INDIVIDUAL					
		COMMUNICATION			

-- Christine F. Salmon

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Topical Outline

1.0 Nature and Housing of Man

1.1 Interrelatedness of Housing and Man

1.2 Structural Limitations

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Topical Outline

2.0 Housing As A Modification of Environment

2.1 Natural, Human and Material Resources

2.11 Natural
- Climatic
- Geographic

2.12 Material
- Economic
- Technological

2.13 Human
- Expression of Values Through Housing
  . Individual
  . Neighborhood
- Various Living Patterns of Housing
  . Family Life Cycle
  . Varying Life Cycles
- Effect of Cultural Factors on Housing

2.2 Housing Policies

2.21 Influence of Housing Policy on Individual and Community
- Background of Public Policy Concerning Housing in the U.S.

2.22 Influence on Housing Policy
- Individuals Collectively in Society
- Individual

2.23 Building Codes and Zoning Ordinances

2.3 Trends in Urban and Rural Housing

2.31 Influencing Factors

2.32 Current Trends

2.33 Future Trends

2.4 Housing Problems

2.41 Types of Housing Areas

2.42 Housing for Special Groups

2.43 Effect of Change in Life Situations on Housing

2.44 Consequences of Housing Choices

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Topical Outline

3.0 Effects of Housing on People

3.1 Effects of Housing on Life Styles and Living Patterns

3.2 Effects of Housing on Basic Needs of People

3.21 Physical Health and Safety

3.22 Social and Emotional Needs

3.33 Use of Available Resources

3.3 Effects of Housing on the Communication of People

3.31 Incentives for Personal Interaction

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4.0 Expression and Creativity Through Design of Housing and Furnishings

4.1 Design Principles and Elements

4.11 Elements of Design

4.12 Principles of Design

4.13 Integrity of Design and Materials

4.2 Designs for Housing

4.21 Architectural Design
- Influence of Design History
- Influence of Contemporary Architects and Designers
- Influence of New or Technologically Changed Resources

4.22 House Plans
- Living Areas
- Storage Areas

4.3 Achievement of Beauty in Housing and Furnishings

4.31 Styles, Trends and Fads

4.32 Selection of Design

4.33 Application of Design
- Exterior
- Interior

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Topical Outline

5.0 Consumer Decisions Related to Housing

5.1 Decision-Making Process

5.2 Consumer Decisions in the Selection of Housing

5.21 Location of Housing
- Services Available
- Neighborhood

5.22 Types of Housing

5.23 Quality of Housing

5.24 Financing
- Rental vs. Ownership
- Terminology
- Costs

5.3 Advancements Influencing Housing Decisions
- Technology and Design Theory
- Materials and Methods of Construction

5.4 Consumer Decisions Related to Furnishings and Equipment

5.41 Available Products and Factors of Consideration

5.42 Furnishings

5.43 Equipment

5.5 Consumer Decisions Related to Services, Care, Maintenance, Repair, Refinishing and Refurbishing

5.51 Use of Services

5.52 Care and Maintenance

5.53 Repairs

5.54 Refinishing and Refurbishing

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Topical Outline

6.0 Exploration of Professional and Supportive Careers Related to Housing and Furnishings

6.1 The World of Work

6.11 Employment Trends

6.12 Changing Roles of Men and Women
- Dual Roles
- New Roles

6.2 The Housing and Furnishings Industries

6.21 History

6.22 Growth and Current Trends

6.23 Necessary Abilities and Attitudes
- General
- Specific

6.3 Professional and Supportive Careers

6.31 Supportive Careers

6.32 Professional Careers

6.33 Related Courses
- Fine Arts Related
- Housekeeping Related
- Real Estate Related

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Topical Outline

1.0 Nature and Housing of Man

1.1 Interrelatedness of Housing and Man
1.2 Structural Limitations

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J. C. Penney Company, Educational Relations Department. "Quality of Life: Youth's Involvement." Forum, Fall/Winter 1970.

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"Visual Pollution: What Can We Do About Our Junked-Up Landscape?" Better Homes and Gardens. July 1971. Pp. 4ff.

Note:

The following periodicals include articles on the environment and ecology:

Design and Environment
Environment
Environment and Behavior
Environmental Science and Technology
Environmental Education
Journal of Applied Ecology

The New York Times and Christian Science Monitor have environmental reports.

Time and The Saturday Review have regular environmental sections.

CBS Evening News has recently added an environmental feature.

Topical Outline

1.0 Nature and Housing of Man

1.1 Interrelatedness of Housing and Man

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Objectives	Conceptual Statements	Beginning Level
1.0 ANALYZES man's dependence on and interaction with nature in relation to housing. VALUES considering the interaction of man and nature in providing housing.	1.0 Man's housing needs and his ways of satisfying them are a result of his dependence on nature and interaction with nature.	1.0 Sequence of experiences for 1.1-1.2 is suggested to achieve this objective.
1.1 Beginning Level IS AWARE of the interrelatedness of nature and housing of man. Intermediate Level COMPREHENDS the interrelatedness of nature and housing of man. Advanced Level ANALYZES ways in which man has worked either with or against nature in providing housing. VALUES working with nature in the provision of housing.	1.1 Human and environmental factors are interrelated in the provision of housing. Man's housing needs grow out of his basic needs such as protection, a need for headquarters, privacy and self-expression and are fulfilled in a variety of ways. Elements in nature such as temperature, humidity, noise, odors, lighting, space, contour of land cause man to seek housing.	1.1 Teacher describes the elements in nature which cause man to seek housing, and then students discuss temperature in greater depth answering such questions as: What temperature factors in Arizona affect people's need for housing? What types of homes are built to make the most advantage of the situation? e.g. Navajos have ramadas and also summer and winter homes. Northern Arizona homes need much more insulation due to extreme cold. Windows often not on west side of houses in hot, central section of state. Students do some experimenting with amount of space provided for each person. In Hong Kong each individual is allowed only 35 square feet. Section off the room with masking tape and then after placing students in their allotted room, obtain their reactions.

* asterisk indicates evaluative experiences.

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LEARNING EXPERIENCES

Intermediate Level

1.0 Sequence of experiences for 1.1-1.2 is suggested to achieve this objective.

1.1 Students discuss ways in which housing meets the basic needs of man, plants and animals. (See K-6). Find examples of the following:

1. how nature meets these needs for animals and plants.
2. how man uses nature to meet these needs for himself.

Student groups can alter the effect of nature on man and present to class examples such as:

Lighting can be varied in the classroom by:

1. turning off the lights as the students enter the room and ask them to share their responses to this change.
2. have a lighting consultant show examples of too much light, low levels of light, dramatic effects of light.

Noise level can be shown by having a loud grating construction noise recording and the teacher conducting class as though nothing is happening. Class discusses effect of noise on fatigue, ability to concentrate, etc.

Odor can be shown by presenting pleasant and unpleasant odors (perfume, food odors, etc.). Students share reactions and discuss variations among reactions. Relate how odor effects housing selection.

Advanced Level

1.0 Sequence of experiences for 1.1-1.2 is suggested to achieve this objective.

1.1 Students view pictures of various ways man has worked with nature and against nature in providing housing.

Examples of working with nature:

- New York City built on granite rock
- Towns founded near water
- River boats on delta
- Sampans in China
- Cliff dwellings
- Adobe in desert
- Wood homes near forest
- Stone homes in rocky areas

Examples against nature:

- Building too close to shoreline
- Destruction of scenic beauty (e.g. Camelback Mtn.)
- Building on California hillsides, destroying woodland and ground covers
- Subdivisions on farmland
- Close to rivers that flood
- Homes in river beds
- Odors (e.g. placing homes next to feedlots and stockyards)
- Noise - near freeways, automated society

Students discuss:

- When the U.S. was first established, why did settlers decide to build their homes where they did?

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Objectives	Conceptual Statements	Beginning Level
		1.1 (continued) Students do some experimenting to see how much room they desire between themselves and someone else. Class discusses what man has done about housing when there has not been ample space. Students note that different cultures have handled housing needs in various ways. (Illustrate with pictures.) Students do research on specifically designated areas as: - Alaska - Orient - Papago Indians - Spanish Missions * Students write a short paper describing how the elements in nature have caused man to seek a particular type of housing to modify the environment.
	- When man accepts his responsibility to nature, he aids in the preservation of his environment. - use of resources - population control	Students discuss ways in which the individual can utilize waste material such as scrap fabrics, glass bottles, paper and plastic bags. Students may select from the above to make useful and creative art objects for home. (References such as What's New in Home Economics, Forecast, Woman's Day and Family Circle may be used.) * Student explains in a short paper why his useful and/or decorative object was good utilization of resources. OR Student may display object to rest of class and explain the utilization of resources.

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LEARNING EXPERIENCES

Intermediate Level

1.1 (continued)

* Students complete a small research paper or project on noise, lighting, and odor as related to man and his housing needs.

  - Students survey magazines for current issues regarding environment which will directly affect housing. Students exchange ideas concerning materials read.

  - Students individually develop a philosophy concerning their responsibility to nature in relation to issues and housing.

Advanced Level

1.1 (continued)

- What are some ways man has worked with nature in establishing homes?
- What are some recent findings concerning the effects of noise on individuals?
- What effect did temperature have on man's seeking housing in central Arizona? in northern Arizona?

* Students develop conclusions about various ways man has worked with and against nature in providing housing.

  - Students debate housing issues as they relate to our responsibility to nature.
    e.g. - overcrowdedness
    - air and water pollution
    - garbage disposal
    - electrical power
    - natural vs. man-made material for housing

  Several groups of students develop resolutions concerning housing issues in relation to preservation of environment. Students would present and support their resolutions before remainder of class.

  Class as a whole may send the resolutions to appropriate governmental groups; e.g. city planning commission, tribal council, urban league, state legislators.

* Students critique articles from magazines and newspapers concerning responsibilities to nature. A summary of most crucial articles is presented to class with student appraisal.

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Objectives	Conceptual Statements	Beginning Level
1.2 COMPREHENDS the limitations of materials and forms as related to structures in housing. APPRECIATES the nature of materials in relations to structural limitations.	1.2 When the limitations of materials and forms as related to structure are considered, greater harmony in their use will be achieved. - Structural materials presently used for housing are concrete, bricks, steel, and woods. - Materials which may be used in the future for housing are plastic, styrofoam, glass, and other substances not yet known. - Some types of forms are: beams, domes, arches, vaults, triangulation.	1.2 Students view pictures of different shapes and sizes of buildings depicting the use of various materials. Various building materials such as brick, curbed piece of concrete, a steel unit and a board are displayed. Class discusses properties of materials. Students view pictures of various buildings using different forms. Students discuss why various shapes and sizes of buildings require different materials. * Students identify pictures of buildings constructed of various building materials and types of forms.

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LEARNING EXPERIENCES

Intermediate Level

1.2 Students take a field trip to observe buildings in process which are constructed of various materials.

Alternative: Students find pictures and identify buildings of various materials or identify from a slide presentation the various building materials.

Students are provided with dittoed copies depicting walls of brick, wood, concrete, and steel girders. Students are asked to draw a doorway and windows on each type of wall trying to do something different with each keeping in mind the nature of the various materials.

Students discuss designs with the thought that man is always searching for new ways to use materials already available.

See reference - Our Man-Made Environment Book 7.

Students review the various types of forms.

Students experiment with various forms to determine what their limitations are, e.g.,
- wooden blocks are provided
- cardboard has been pre-cut in shapes to represent the forms.

* Students prepare a form which is suitable for a structure from the materials provided and indicated what the limitations are.

Advanced Level

1.2 If structural materials need to be discussed, see Intermediate Level.

Students receive information or read about new structural materials which are being used for housing. Students find pictures of new housing structural materials and discuss the advantages and disadvantages of these for housing relating it to climate.

Students view demonstration of a red apple, a yellow lemon, and a fresh green pepper. These indicate designs full of color, texture, form, delight, and integrity. Each when cut open shows a housing for the exterior with a complicated design structure for the interior.

Students view pictures on slides of new ideas in architecture, e.g. Paolo Solari's arcology, Moshe Safdie's Habitats, Lawrence Halprin's ideas, and discuss.

Students go on field trip to view various structural shapes - domed, flat-roof, steep-roof, A-frame, circular. Students then work together in groups to develop ideas for new structural shapes.

* Students individually might present these on paper or prepare a small model.

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Environment

The Devil's Disciple's Dictionary

Breathe - To inhale noxious elements, and exhale pure chemicals, leaving the residue within the lungs.

Conservation - Good housekeeping on Spaceship Earth.

DDT - Dusty death's ticket.

Defoliate - To strip leaves from the trees and pride from our side.

Ecology - The study of the earth's thin delicate living skin.

Engineer - A Roman who believes that the road to salvation is paved.

Environment - The dirty blanket we wrap ourselves in.

Exhaust - Automotive flatulence, an essential component in the mass production of one of the major domestic industrial products of contemporary America, smog.

Fallow - Fortunate enough to be neglected by man.

Grass - Nature's stubborn green hair which grows with a mind of its own; forms part of the triad, along with bushes and trees, that amends man's presence on this planet.

Hearing - A search for meaning amidst noise.

Image - The outer or most important aspect of reality.

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Inexhaustible - Formerly thought true of the world's resources; now recognized as true of the sum total of human wants.

Lawn - A much-desired homogenized green vegetable fuzz, produced by exterminating all animal life around it.

Leaf - A small, flat, pointed green energy factory, produced in vast quantities by tall, fibrous vegetables called trees. When they terminate production of energy, they turn brown and fall (hence the man), requiring human energy to be expended in their gathering and disposal, by usually unsatisfactory means.

Maintenance - The constant probing of the city's intestines through the concrete, to determine whether they are still there. The effect of this process upon the city's circulation, however, is but dimly understood.

Muffler - A noise net whose effectiveness is only recognized when it is defective.

Nature - The mother of God, as distinguished from man, the father of God.

Park - A green, pleasant, and unsafe place to walk; generally kept dark at night, to assure its continued status.

Parking lot - A temporary sheet of asphalt, covering a piece of recently cleared land awaiting approval for its next occupant.

Pollution - The broken water closet of Spaceship Earth.

Rat - A small, four-legged mammal, as ubiquitous, clever, useless and dirty as man; the rat, however, has a tail.

Reactor - Part of a panel that builds up heat without exploding.

River - A dead but still-moving body of water, that carries soluble wastes down to the sea.

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Sign - A clearing in the jungle of confusion; a windshield-wiper in a storm. On superhighways, however, they are white-speckled green birds that float by, leaving confusion in their wake.

Smog - A soup in which man marinates; a man-made substance intended to counter the effects of longevity and public health planning, since it produces black lung, pink eye and smoker's cough.

Social distance - The distance at which people begin to find each other truly repulsive; since perception may be dulled by some cultures, social distance varies from place to place.

Solid waste - The ash and trash we smash and splash all over the countryside.

Suburb - A newly homegonized corner of the city that provides a temporary respite from its problems.

Traffic light - A mechanism for regulating the flow of a city's arteries; it consists of two sections, one red and one green; the red is always timed to last longer than the green.

Tree - Nature's gentle attempt to correct man's architectural mistakes.

Water - A clear, unpalatable liquid, usually mixed with other liquids or powders, to render it potable, and as such, necessary for life.

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Topical Outline

2.0 Housing As A Modification of Environment

2.1 Natural, Human and Material Resources
- 2.11 Natural
  - Climatic
  - Geographic
- 2.12 Material
  - Economic
  - Technological
- 2.13 Human
  - Expression of Values Through Housing
    - . Individual
    - . Neighborhood
  - Various Living Patterns of Housing
    - . Family Life Cycle
    - . Varying Life Cycles
  - Effect of Cultural Factors on Housing

2.2 Housing Policies
- 2.21 Influence of Housing Policy on Individual and Community
  - Background of Public Policy Concerning Housing in the U.S.
- 2.22 Influence on Housing Policy
  - Individuals Collectively in Society
  - Individual
- 2.23 Building Codes and Zoning Ordinances

2.3 Trends in Urban and Rural Housing
- 2.31 Influencing Factors
- 2.32 Current Trends
- 2.33 Future Trends

2.4 Housing Problems
- 2.41 Types of Housing Areas
- 2.42 Housing for Special Groups
- 2.43 Effect of Change in Life Situations on Housing
- 2.44 Consequences of Housing Choices

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Topical Outline

2.0 Housing As A Modification of Environment

2.1 Natural, Human and Material Elements

2.11 Natural Elements

- Climatic
- Geographic

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Objectives	Conceptual Statements	Beginning Level
2.0 All Levels IS ABLE TO ANALYZE the efforts of man to modify his environment through housing. IS WILLING TO EXAMINE factors that influence man's efforts to modify his environment through housing.	2.0 Man in his effort to modify his environment has developed housing of various types which has been influenced by social, economic, cultural, technological, physical, political and governmental factors.	2.0 Sequence of experiences for 2.1-2.4 is suggested to achieve this objective. Note: When 3.0 will also be taught at any level, it is suggested that the experiences for 2.1-2.13 and those from 3.0-3.31 be dove-tailed or 3.0 experiences individualized.
2.1-2.13 All Levels COMPREHENDS the components of housing decisions regarding the nature and allocation of natural, human and material elements.	2.1 When man modifies his environment to meet housing needs, he will need to consider the nature and allocation of available natural, human and material elements.	2.1 Students are asked to write a description of what a house is to them. Discussion following includes questions such as: How would each of the following describe their homes? - the Eskimo - the Japanese - the African tribesman - the American camping out - the Chinese in his sampan How do these reflect the influences of nature and allocation of natural, human and material elements?
2.11 All Levels COMPREHENDS the relationship of geographic and climatic factors to the availability of natural resources for housing.	2.11 When man assesses the geographic and climatic factors and natural products available, he may be able to obtain satisfactory housing through the use and modification of existing materials.	2.11 Students observe several illustrations of housing depicting various parts of the world to develop an understanding of the climatic and geographic factors influencing the use of natural materials in home building. Examples might include: - African village with straw huts - log cabins - sod houses - adobe houses - stilt houses from Ecuador - tepees of skin - ice igloos from the Arctic - steep-roofed homes from Norway and northern Europe - tile roofs from warm countries

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LEARNING EXPERIENCES

Intermediate Level

2.0 Sequence of experiences for 2.1-2.4 is suggested to achieve this objective.
(See Beginning Level notation).

2.1 Students are shown pictures of prehistoric housing in Arizona such as cliff dwellings, Casa Grande Ruins, tepees, caves and protected shelter.

Students discuss how nature, available natural materials, human resources, and the technology of materials influenced the homes these people had.

2.11 Students observe a display of the following types of homes:
- Swiss chalet
- Spanish mission
- Southern plantation
- split level

Students discuss environmental factors as:
1. Why did the Swiss chalet have a steep roof?
2. Why did the Southern plantation have a large veranda?
3. Why did the Spanish mission have thick walls and small windows?
4. What determined the types of building materials in each home?

Advanced Level

2.0 Sequence of experiences for 2.1-2.4 is suggested to achieve this objective.
(See Beginning Level notation).

2.1 Students are shown pictures of varied types of housing. E.g.: South Sea Islands primitive, Alaskan igloos, etc. as well as skyscraper apartment buildings and huge estates. Students then answer the following questions:
- What facts about nature were considered?
- What materials could be used and why?
- What economic and technological factors needed to be considered?
- What human factors do you think were considered?

2.11 If necessary, students review materials used for housing at beginning and intermediate levels.

Students read about experiments in housing, share their ideas and discuss.

Topical Outline

2.11 Natural Elements (continued)

2.12 Material Elements

- Economic
- Technological

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Objectives	Conceptual Statements	Beginning Level
		2.11 (continued) Students brainstorm the use of new materials to combat the climatic conditions of undersea living and space platform living. Questions which might be discussed would be: - What climate conditions would have to be solved? - What materials would prove durable? - What shapes would be most relevant? * After brainstorming, each student is asked to design a shelter for their own climate and geographic conditions using new materials or new ideas.
2.12 <u>All Levels</u> COMPREHENDS that the ability to achieve a satisfactory living condition is directly related to the economic trends and technological advancements.	2.12 When the individual and/or the family considers the economic trends and available technological advancements, they may be able to achieve a more satisfactory living condition. - Science and technology make it possible for man to regulate environmental conditions within the dwelling by controlling temperature and humidity, providing adequate and appropriate light, controlling noise and odors, and developing aesthetic qualities in all aspects of the house.	2.12 Students examine various materials which might be used for building. Examples might include: - concrete block - plexaglas - cardboard - pressed wood - styrofoam - plastic - metal - rubber Students are asked to silently move about objects and write a summary about how each might be used for building in the future. - What type structures could be shaped? - What heating and cooling properties would be available? - What technological advances would have to come about before some of these could be well used?

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.11 (continued)

5. What influences the type of heating system?
6. What factors would suggest the type of furniture?
7. How could the family's personal needs be met in each home?

Students then observe homes in their community and discuss:

1. What are the types of building materials found in our immediate area?
2. What home furnishings items are made in or near this community?
3. How does using available resources cut housing costs?
4. What effects do these concerns have on our community's resources?
5. What are some ways people in our community could use resources for housing wisely?

2.12 Students examine what effect air pollution will have on housing.
E.g., In some cities, children cannot have recess every day. People want to move away from the city.

What predictions do they have for resolving these problems?

2.12 Students find or are provided information which indicates the amount it currently costs to build per square foot in various sections of the country.

Students survey parents, friends, etc., to find the cost per square foot two, five and ten years ago.

Students, with teacher's assistance, begin to examine why housing is more expensive in certain areas and why costs have risen, bringing technological advancements into the total picture.

Topical Outline

2.12 Material Elements (continued)
2.13 Human Element
- Expression of Values Through Housing
  . Individual
  . Neighborhood

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Objectives	Conceptual Statements	Beginning Level
	2.12 (continued) - Certain technological changes intensify physical needs such as freedom from distracting noises and the need for air that is safe from pollution.	2.12 (continued) Discuss the influence of technological advances and the influx of people to Arizona. E.g.: Until after World War II, few people moved to the hot areas of Arizona. It was not until the evaporative cooler was developed and utilized here that people came in numbers to stay.
2.13 All Levels COMPREHENDS man's need to express his values through housing and the living patterns established.	2.13 When living patterns and expression of values are considered, a satisfactory modification of environment is likely to be achieved. - Man consciously or unconsciously expresses his values and standards through a living pattern in housing, which in turn has an effect on the neighborhood environment.	2.13 Students write a short letter describing what their home best expresses about them. Discussion following should bring out what values may be expressed in one's home or room. Students listen to panel of parents describe the homes in which they have lived. Persons chosen for the panel may have varying backgrounds such as retired military or immigrants. The panel members would be asked to tell about the cultural patterns, the differences from present homes, and the effects cultural patterns have on housing.

* asterisk indicates evaluative experiences.

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LEARNING EXPERIENCES

Intermediate Level

2.13 Students present minute drama.

Students study list of values that teacher prepares and determine what kinds of housing this individual might possess. (See appendix).

Students listen to a panel discuss the type of housing each would choose for their particular stage in life and why. Panelists would include:
- a single career girl, 20-30 years
- a widowed or divorced woman with children
- a middle-aged widow
- a divorced person who remarried
- a married couple with no children

Advanced Level

2.12 (continued)
Students do research to find out the effect of temperature and humidity on people's behavior.
E.g.:
- As temperature and humidity in the physical environment increase to higher levels, the productivity of individuals is decreased, their sense of spaciousness is decreased, and irritability is increased.
  . Industrial workers do 37% more work at 68°F., 50% humidity; than at 86°F., 50% humidity.
  . Crime rates involving violence increase in hot weather.
  . A room seems less crowded when the temperature is lowered.
  . The temperature and humidity in the physical environment influences productivity, sense of spaciousness, and irritability or well-being.

* 2.11-2.12 Students demonstrate comprehension of components through written evaluation.

2.13 Students consider the variations of housing within the state and then examine the values they feel are expressed in this type of housing.
E.g.:
- hogan on reservation--deep regard for nature and privacy
- large, elaborate homes--desire for beauty, expression of self through spending money, status symbol
- small but very clean Mexican homes--desire for cleanliness, desire for beauty

Students individually determine what values are expressed in housing in their neighborhood.

Topical Outline

2.13 Human Element (continued)
- Various Living Patterns of Housing
  . Family Life Cycle
  . Varying Life Cycles
- Effect of Cultural Factors on Housing

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Objectives	Conceptual Statements	Beginning Level
	2.13 (continued) - A person's life situation is made up of a combination of circumstances which collectively influence his housing needs. . The family life cycle: 1) the establishment stage 2) the expanding family stage 3) the crowded years 4) the teenage stage 5) the launching stage 6) the middle years 7) aging . Individuals may have other types of life cycles depending upon their life situation, as: - single, never married - divorced, living alone - unwed mother rearing child - single parent with adopted child - widow - divorced individual with children - remarried individual - remarried individual with children	2.13 (continued) Students develop an understanding of "What is a family?" by discussing a flannel board depicting stages in family life cycle and how each family is unique in its combination of individuals and their needs. Flannel board: Each segment is separate with stage written on back (or front). On the front simplify and identify who is in each stage. What is placed on each segment would depend on the level of learning. (See appendix). Now that a "family group" has been defined, an exploration of the housing needs can be made. Have class divide into small groups and each group take one of the recorded family situations (or teacher could make up and print situations on cards). Each group discusses their housing needs and summarizes basic housing needs.
	- Cultural factors influence the style, materials and location of housing as well as its use. E.g.: . Family and community life patterns In the Israeli kibbutz, a collective village, parents and their offspring do not live in	Students read references to learn about housing in various cultures, as: - Hopi, Navajo Indian - African jungle tribes - Arabian nomads - Japanese - Israeli kibbutz - rural India

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
2.13 (continued) Students then write a statement describing housing typical of the named cultures and make a comparison with that of their own culture.	
* 2.1-2.13 Students are given a written evaluation to determine level of comprehension concerning natural, human, and material elements.	* 2.1-2.13 Students are given two case study situations for which to solve problems. The case studies should differ in the make-up of the families, such as cultural background, place in the family life cycle, etc. with the problem centered around housing components involving decisions regarding allocation of natural, human and material elements.

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Objectives	Conceptual Statements	Beginning Level
	2.13 (continued) a common household; instead, there are special children's homes, a communal dining hall, and common store rooms. This housing grew out of the community life pattern which developed in order to meet the economic and safety needs of the people. . Ethnic origin In New Orleans, a city settled by immigrants from France, the French influence can be seen to this day in the older quarters of the city. The clustering in a city of immigrants from a particular area who typically arrive with limited resources tends to result in substandard and crowded housing for them. The dwelling of the Pueblo Indians in Taos, New Mexico, an apartment-type community, provides the setting for a society held together by ties of language, culture and religion. . Religious practices In the Southwest, it is common to see a shrine or place of worship in the house or garden	2.13 (continued) Students compare how housing provides for the following in each culture: - religion - eating - bathing and dressing - cooking - storage - social activity - privacy - family relationships * 2.1-2.13 Students are given a written evaluation to determine whether comprehension of the concept 2.1-2.13 has been achieved.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
2.13 (continued)	2.13 (continued)
Students read about housing in Rajput and the Gusii cultures. Students discuss the beliefs regarding family life, roles of men and women, the location for various activities, cleanliness, importance of animals as shown in their housing. (See Brown and Plihal, Evaluation Materials, pp. 161-165).	Each student chooses a particular culture and conducts research to determine their housing in terms of style, materials, and location and its use, taking into consideration family and community life patterns, ethnic origins, and religious practices. Students share their findings with other class members.

Topical Outline

2.13 Human Element (continued)
- Effect of Cultural Factors on Housing (continued)

2.2 Housing Policies

2.21 Influence of Housing Policy on Individual and Community
- Background of Public Policy Concerning Housing in the U.S.

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Objectives	Conceptual Statements	Beginning Level
	2.13 (continued) of a Catholic family of Mexican origin. Worship centers were also found in the homes of early Roman families and Oriental Buddhist families. Hopi Indians built kwis so that the men of the tribe could pursue religious practices away from public view.	
2.2 Advanced Level ANALYZES the role of public policy in relation to housing. IS WILLING TO EXAMINE the role of public policy in relation to housing.	2.2 Public policies concerning housing of a nation or a community affect the form, quality, and quantity of available housing.	2.2 Learning experiences at this level are not appropriate.
	2.21 Government policies at the federal and local level influence the development and expansion or deterioration and reduction of housing units. - Role of the government in the field of housing has been controversial since the first attempt to enact housing legislation. This controversy has arisen because of two opposing concepts: 1) the emphasis on individual freedom expressed through our private enterprise system; 2) concern for society as a whole and need for government intervention.	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
2.2 Learning experiences at this level are not appropriate.	2.2 * Students are given a pretest over the role of public policy in housing.
	2.21 Students discuss Public Policy Road Map (see appendix) to develop idea that government interest significantly changed housing policy from landlord-tenant relationship to individual home ownership. - Students gain background information about governmental housing policies through lecture, transparencies and handouts. - Students read articles from newspapers or magazines concerning housing policies and then exchange ideas with other students. Teacher prepares list of questions pertinent to the specific articles the students have collected. After all ideas are exchanged, the teacher could present a housing policy problem based on the readings for students to discuss and solve. OR

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Objectives	Conceptual Statements	Beginning Level

2.21 (continued)

- In the 1930's, governmental policies were formed to aid individual home ownership. This stress led to the development, in the 1940's, of FHA and VA insured financing.

- Society, though it feels responsibility to provide public housing, has not elected to permit the federal government large holdings but provides privately owned and operated concerns with subsidies from various levels of government.

  In 1961, the federal government placed public housing administration in the hands of local authorities although there still are certain federal requirements. Standards for minimum construction policies are handled by local authorities:

  . electric . sanitation . zoning codes
  . water . space . services

  Proposed alternatives to public housing are:

  . rent certificates . family income subsidies
  . housing cooperatives . use of capital grants

- The 1954 Housing Act for urban renewal, based on public interest and welfare rather than private enterprise, deals with specific problems of residential areas: clear and develop slums; prevent areas surrounding slums from becoming slums; maintain and prevent problems in stable areas; incorporate good planning methods in order to prevent slums.

- In the 1950's, government policies provided investment insurance to the builder, thereby providing an incentive for building.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.21 (continued)

Students role play a mock hearing for a request from the county supervisor for a zoning change.

OR

Students attend a county supervisor's hearing for a zoning change.

- Concepts which are listed for 2.21 may be partially explored and analyzed by students using materials which are most applicable to the community and school. Learning experiences listed are designed to be used separately or as a unit drawn together by the final experience.

- Students debate the issue of public housing and whose needs it serves satisfactorily. Alternatives to public housing may be debated:
  - rent certificates
  - housing cooperatives
  - family income subsidies
  - use of capital grants

- Students discuss various problems involved with redevelopment of certain areas of cities and small towns.

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Objectives	Conceptual Statements	Beginning Level

2.21 (continued)

- Open housing policies to discourage discrimination became the issues in the 1960's. This included both federal and local housing and zoning.

- Society, through legislative programs, has been and is able to rehabilitate and/or redevelop housing for those who live in slums.
  . Housing Act of 1949
  . Urban Renewal Housing Act of 1954
  . Housing Act of 1961 (rehabilitation)
    - demonstration projects
    - low rent public housing
  . The Urban Mass Transportation Act of 1964
  . Rent Supplement Program - 1965
  . The Housing and Urban Development Act of 1965
  . Model Cities and Metropolitan Development Act of 1966

- Social Welfare contributes to meeting the basic housing needs of dependent individuals and/or families so there is a possibility that all individuals and/or families may have at least a minimum level of housing and may be able to move toward self-fulfillment.

- H.U.D. programs with United States Department of Housing and Urban Development:
  . Model Cities program
  . public low rent housing
  . housing for elderly and handicapped
  . urban renewal programs
  . urban rehabilitation programs
  . neighborhood facilities
  . open spaces - city parks, recreation, and for scenic or historic purposes

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.21 (continued)

- Students explore the attempts of Arizona cities to develop open housing policies. What are the benefits and problems?

- Students in urban areas investigate in their cities the results of various housing legislative programs from 1950-1970.

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Objectives	Conceptual Statements	Beginning Level

2.21 (continued)

- Society, through governmental programs and financing, is providing many housing solutions for the aged:
  - . U. S. Public Housing Program
  - . Federal Housing Administration, Section 231 (a mortgage insurance program)
  - . Housing and Home Finance Agency (direct loan program)
  - . Senior Citizens Housing Act of 1962
  - . Housing and Urban Development Act of 1965
  - . Demonstration Cities and Metropolitan Act of 1966

- When one analyzes the governmental programs and their results, it is ascertainable that the quality of housing in rural areas is being provided with the opportunity for improvement.
  - . Farmers Home Administration Act of 1940 (rural housing loan program)
    - construction and repair of homes and essential farm buildings
    - available to secure housing for rural elderly
    - available to rural groups for other community improvement projects
    - as of 1961, available to persons in small country towns of 2,500 or less population
  - . Veteran's Administration loans
  - . Federal Housing Administration loans
  - . Housing and Home Finance Agency
  - . Housing Act of 1949
  - . Title V, 1961 Revision of Housing Act of 1949 (housing for migrant labor)
  - . Rural Renewal and Resources Conservation Program - Dept. of Agriculture

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.21 (continued)

- Students hear panel composed of a real estate broker, bank housing loan officer, major or city government representative, and an informed senior citizen on topic of programs and financing of homes for the elderly in Arizona.

* Students write summary of information gained, answering such questions as how adequate is legislation to provide real assistance to the elderly.

- Students in rural area hear a panel composed of an extension agent, farmer, tenant, and banker on the topic of legislation and housing for rural areas.

- Concluding experience for groups using several of the above suggested activities:

  Students divided by groups choose a topic for development of a legislative proposal. Topics include public housing, urban renewal, housing for the elderly, and rural housing programs. Each platform is presented and debated. Other groups of students or community groups may be invited for presentations.

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Objectives	Conceptual Statements	Beginning Level

2.22 When the future of society depends on individuals whose well-being and growth are influenced by their housing solutions, the individual responsibility for society's housing must be recognized.

Ultimately, the solution of society's housing problems depends upon the combined efforts and decisions of the citizens of that society.

There are various ways in which individuals and groups can become involved in the determining of solutions for man's housing problems.
- Individual property selection and maintenance
- Individual becomes informed on issues
- Initiation and/or participation in community projects
- Initiation and/or participation in petitions for government action
- Support of legislative action
  - . local
  - . state
  - . area
  - . federal

Citizens, through independent action or through cooperation with government, are able to plan and carry out numerous housing improvement programs for slums.
- Community action programs
  - . clean up streets
  - . rat-kill programs
  - . parks and recreation
  - . turning streets into approved playground areas
- Rehabilitation programs

Citizen action in the area of housing has improved the well-being of the aged, but communities and their citizens will be further challenged to gain understanding of the aged and to determine action to be taken in solving their housing problems.

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LEARNING EXPERIENCES

Intermediate Level

Advanced Level

2.1.-2.22 (continued)

Speaker could be invited to talk about housing policy:
- FHA representative
- real estate agent
- public housing representative
- tribal council member

Students conduct individual research projects on housing policies. Examples:
- Formulate a new policy for a particular group in own community.
  - . mobile homes
  - . modular homes
  - . migrants
  - . total planned community
  - . industry moving on to reservations
- Research development of FHA
- What policies does tribal council make for housing?
- How do major political parties stand on housing issues?
- Investigate rural development - Farmers Home Adm.
- Visit and describe sub-standard housing in your community.

Students use background information from reading, speakers and research to debate housing policy issues.
- Should urban renewal projects be supported?
- Should more public housing be provided?
- Present a statement: People who live in low-cost housing do not take care of it.
- Should the government or should individuals assume the major responsibility for housing policies?
- Should self-help housing on reservations be continued or abolished?

* Students complete a research paper on one phase of housing in an area of public concern. Students, after researching topic, should be able to defend their views.

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Objectives	Conceptual Statements	Beginning Level

2.22 (continued)
- public and private housing programs
- meal distribution program (England - "Meal on Wheels")
- health services
- public transportation
- Visiting Nurse service
- Visiting Volunteers
- retirement housing projects
  . single housing
  . apartments
  . domiciliary care
  . congregate living - group of elderly living under same roof
- retirement communities such as Sun City, Arizona

The future of improvement in rural housing depends upon citizen action and citizen cooperation with government programs.
- rural renewal program
- development of community facilities
- community action programs

Political action groups and the building industry influence the support and regulation of housing by local and federal governments.
- the Housing Act of 1949 was supported by such diverse groups as the Nat. Assoc. of Home Builders, Nat. Assoc. of Real Estate Boards, Amer. Bankers Assoc., The Bldg. Products Inst., veterans' organizations, organizations representing religious organizations, and the NAACP.

As recently as 1963, the building products industry presented a program of government-sponsored research concerning use of new materials as substitutes for commonly used ones.

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LEARNING EXPERIENCES

Intermediate Level

Advanced Level

2.22 Teacher shows pictures or transparencies of various individuals--professional-looking business man, married housewife, teenager, elderly person, tribal council member, minority group leader, and rancher--and asks class what influence each of these persons could have on the housing policies in our country.

- Teacher develops idea through discussion and lecture that individuals or groups of individuals can have much effect on housing policies.

2.21-2.22 Students receive dittoed copy of poem (see reference, Landlord and Tenant, pp. 28-30).

Teacher uses slides series showing slum sections as compared with Taliesen West. Questions:
- Should housing be equalized?
- What does lack of housing policy cause?

OR

Teacher shows pictures of self-help housing on reservations compared to traditional housing. Questions:
- Should there be more tribal council interest in providing equalized housing?
- Should there be tribal policy concerning where new housing should be constructed?

Students develop a questionnaire and interview individuals in various housing situations concerning their feelings about zoning in the community, public housing, etc. to determine if individuals are interested in public policy in the area of housing.

Students develop a questionnaire and interview individuals who help to make public policy--persons in municipal government.

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Objectives	Conceptual Statements	Beginning Level
2.23 All Levels COMPREHENDS building codes and zoning ordinances as they affect individuals and families. IS AWARE of the restrictions of building codes and zoning ordinances.	2.23 Man in an effort to maintain minimum standards for public health, safety, and general welfare has developed building codes for communities. - Building codes specify building materials, strength required of them and construction techniques. Man in an effort to organize both land use for maximum utilization and human activities which may be carried out easily and effectively has designed zoning ordinances. - Zoning ordinances may specify the location, size, design, use and construction of the building.	2.23 Learning experiences at this level are not appropriate.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
2.23 Learning experiences at this level are not appropriate.	2.23 Students receive background information about building codes and zoning ordinances. Students bring in newspaper articles about building codes or zoning ordinances from the city council or county board of supervisor meetings. Students contact city building inspector to obtain a copy of building codes. Students examine school or other building according to building codes, considering reasons for each requirement. Students obtain a land use map at City Hall which they examine and then discuss the zoning ordinances. Students work in groups to determine what trend future zoning ordinances will take and present their ideas and reasons to the rest of the class. OR City manager or representative is invited to speak to the class about proposed or future city planning. * Students investigate building codes and zoning ordinances for their particular area to find out what is allowed and what restrictions there are. Conclusions are drawn by students as to the adequacy or inadequacy for the present and the future.

Topical Outline

2.3 Trends in Urban and Rural Housing

2.31 Influencing Factors

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Objectives	Conceptual Statements	Beginning Level
2.3 All Levels COMPREHENDS the trends in urban and rural housing as they affect individuals and families.	2.3 When individuals understand that the trends in housing affect type, quality and quantity of dwellings available, they may be better able to cope with the change.	
	2.31 Major factors influencing housing trends in the U.S. include social, technological and economic conditions. - Social conditions which influence housing trends include the following: . population growth . population patterns - Family size and composition - Socio-economic status - Mobility - Technological factors which influence housing trends include the following: . development of new materials . recycling of used materials . research into new concepts of housing - Economic conditions influencing housing trends: . stock market trends . interest rates . employment trends	2.31 Students share with the rest of the class the type of housing they live in as well as the kind of dwellings their parents had at that age. This information is entered on a chart which the teacher has prepared. Students and teacher discuss some of the housing trends which are observable. Teacher brings out other points which have influenced housing trends such as family size and mobility.

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LEARNING EXPERIENCES

Intermediate Level

2.31 Students discuss conditions in Arizona which have affected housing trends, as:
- a great increase of population in World War II
- development of air conditioning
- stable water supply
- movement of businesses and industry to Arizona
- closing of mines
- development of recreation and resort areas

Students identify the conditions in own community which influence housing trends.

Students develop the concept of mobility by answering questions as:
- Do you live in the same home as when you were born?
- How many times have you moved?
- How many different types of housing have you lived in?

Students survey individuals in their neighborhood using a questionnaire concerning mobility. Information might be obtained relative to number of times moved, age range, sex, occupation, reasons for moving.

Students discuss: What effect does mobile population have on housing in the community?

Advanced Level

2.31 Banker, real estate agent, or FHA agent is invited to speak to the class regarding the current local trends in housing and the reasons for them.

OR

Students divide into three groups and each group reads articles and gathers information about economic conditions which are currently influencing housing. Teacher presents additional information about factors influencing housing trends in the local community.

Topical Outline
2.32 Current Trends
2.33 Future Trends

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Objectives	Conceptual Statements	Beginning Level
2.32 All Levels COMPREHENDS that housing reflects social, technological and economic conditions.	2.32 Current housing trends which reflect social, technological and economic conditions include: - planned developments - condominiums - mobile homes - modular housing units - compulsory rehousing - nursing and convalescent homes - single and multiple housing - high rise dwellings - reversal of rural to urban living - scatter housing - communal living - private security systems	2.32 Students tour the community to determine the current trends in housing, perhaps stopping and looking at several so students are aware of the variations in dwelling types. - Students and teacher discuss the excursion, bringing out such factors as economic conditions, family size and composition, and mobility as well as their own personal preferences and reasons.
2.33 All Levels COMPREHENDS future trends in housing as seen today.	2.33 Some future housing trends are: - federal standardization of requirements for space limitations in building and construction - magalopolises - arcologies See: Phoenix Magazine, July, 1971 Newsweek, April 19, 1971	2.33 Students observe pictures of future trends in housing and discuss.

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LEARNING EXPERIENCES

Intermediate Level

2.32-2.33 Teacher prepares bulletin board on current and future housing trends.

Students discuss trends, and each student reads an article concerning a current or future trend. Students answer the following questions concerning the article they have read:

- Where would this housing be located and why?
- What type of individuals or families would use this kind of housing and why?
- How permanent do you feel this residence would be?
- What restrictions would you make on this type of housing and why?
- Does this type of housing exist in your community and to what extent?

* Students share ideas on articles read and opinions on above questions.

* Through the following questions, students summarize ideas on housing trends:
  - What housing trends do you see best for your community?
  - What housing trends would be impractical?
  - Are planned developments feasible in your areas? What are the advantages? Disadvantages?

Advanced Level

2.32 Teacher presents information from the current U.S. census about the type of housing presently in use in the state, the economic level of housing in particular communities as well as the ages of individuals in the area.

2.33 Students read articles, observe pictures or slides about future trends in housing and discuss.

OR

Students visit Paolo Solari's desert site where he and his students have experimented with many architectural ideas as well as being able to observe a model of Arcosanti, his plan for an arcology.

* Students write short paper on how they see the trends in housing after studying this particular unit.

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Objectives	Conceptual Statements	Beginning Level
2.4 Advanced Level ANALYZES housing problems of the world, the nation, the community, the family and the individual.	2.4 When housing problems exist in society, they need to be considered in terms of their effect on physical, emotional, social and intellectual growth and well-being of individuals and society. 2.41 When problem housing areas exist, there should be an awareness of the consequences for human growth and well-being. - When a minority group tends to cluster together for housing because of social, legal and economic pressures, it tends to affect the well-being of the individuals. . social isolation . homogeneity of values and needs . retention of cultural patterns . security for the individual within the group - When housing is located in a highly congested and/or declining area and the facilities are deteriorated and unsanitary, it tends to create undesirable results for humans. - Rehabilitating and/or redeveloping housing within the deteriorating areas requires the cooperation of government agencies, architects, building industry, citizens' groups, local agencies and citizens as individuals. - When housing is located in the central city, core of metropolitan area, the form is vastly diversified in size, structure and quality. E.g.: business district, hotels, bus and railway stations, new apartment buildings, small parks, older elite housing.	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.41 Students are divided into groups to research information about problem housing areas, utilizing magazine and newspaper articles.
- highly congested and/or declining areas
- central city dwellings
- suburbs
- small towns
- rural areas

Students share the information with other members of the class.

Teacher provides students with information in areas they did not research. Visual aids obtained from magazines, newspapers, current books would increase student understanding.

Visiting nurse, social worker, or someone else who works in highly congested or declining areas talks to students about the effects on human needs these housing situations have.

OR

Mayor, councilman, or Public Housing Authority is invited to speak concerning plans for problem housing areas in the community.

Students analyze the variations in problem housing areas in terms of:
- population density
- self-sufficiency of area
- proximity to outdoor areas
- methods of transportation
- quality of schools
- political, social and religious entities
- isolationism
- recreational opportunities

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Objectives	Conceptual Statements	Beginning Level
	2.41 (continued) . When people live in the central city, they are affected by a wide range of physical and social conditions existing there. ..congested--lack of personal privacy ..noise and congestion of public transportation facilities ..lack of new housing ..high crime rate ..isolated social groupings ..may be center for urban renewal ..where central cities have provided adequate housing, there is a trend for white collar workers to return to central city to live as well as to work ..migrants drawn to this area are frequently members of minority groups ..location may provide health problems due to fumes, odors and sanitation . When citizens work together, with or without governmental help, they are able to plan and carry out numerous programs for improving central city housing. ..urban renewal programs ..model cities programs ..city housing codes ..community betterment projects ..civic center development . When suburbs are analyzed, it is found that they are primarily housing areas adjacent to central cities which are dependent upon the core city for sources of employment and for many goods and services.	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.41 (continued)

. Students hear background information on central city areas.

Students living in cities or near cities survey central city area to identify and analyze economic, social and transportation conditions.

Students living in smaller towns identify the economic, social and transportation problems existing in their communities which are similar to those of central cities.

. Students analyze variations of social, economic and transportation conditions in suburban areas as compared to rural and central city areas.

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Objectives	Conceptual Statements	Beginning Level

2.41 (continued)

..They have a wide range of characteristics which affect the physiological and psychological well-being of those who dwell there.
-insufficient tax base
-isolated from varying activities and people of varying socio-economic levels
-monotony and sameness of housing styles

..The future of the suburbs is dependent upon government and citizen action to establish sound planning criteria and necessary controls and to provide the programs and funds necessary for improvement of the suburban community.

. When small or medium towns are analyzed, it is found that they may include a group of people of varying economic and social classes bound together and sharing geographic area and common facilities, but are not adjacent to a city.
..When housing is located in small towns, it tends to result in certain consequences for the individuals residing there.
-isolation
-lack of zoning codes and sanitation
-few cultural, recreational and shopping facilities
-limited public service, police protection and public transportation

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

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Objectives	Conceptual Statements	Beginning Level

2.41 (continued)

. When a place has 2,500 or less inhabitants, it is classified as a rural area and the housing may be classified as rural farm or rural non-farm.

..When housing is located in a rural area, it tends to result in certain consequences concerning the form of that housing and the effect it has on the people who live there.

-over half of the rural homes in the U.S. are inadequate in quality and lack plumbing facilities

-limited selection of housing in rural areas

-family needs must be self-filled in many areas or must be able to depend upon a city for goods and services

-rural housing is generally significantly lower in value than urban housing

..The need for improvement in rural housing solutions has long been recognized and although some legislation has been enacted, government and citizen response has been inadequate.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
	2.41 (continued) Students analyze the advantages and disadvantages of living in rural areas.

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Objectives	Conceptual Statements	Beginning Level
2.42 Advanced Level COMPREHENDS the modifications of housing for special groups to meet physical, emotional, social and intellectual needs and values.	2.42 When special groups are considered, housing often must be modified to meet their physical, emotional, social and intellectual needs and values. - aged - single - handicapped - migrants - persons living in communes - persons involved in trial marriages	2.42 Learning experiences at this level are not appropriate.

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LEARNING EXPERIENCES

Intermediate Level	Advanced Level
2.42 Learning experiences at this level are not appropriate.	2.42 Invite handicapped person (blind, in wheel chair, on crutches) or parent of handicapped child to class to discuss the housing problems involved. Invite aged person or someone who cares for aged person to class to discuss housing difficulties or special adjustments which must be made. If students in class move during the year (Indians on the reservation, migrant children, others) encourage them to discuss the advantages or disadvantages of moving in terms of housing needs being met. FHA chapter work with aged persons residing in central city apartments, individual homes, duplexes to determine some of their specific needs in housing: - no steps to climb - shower instead of tub - residents close to friends and relatives - close to shopping - delivery services available FHA members "adopt" a handicapped individual--could be a child, teenager, or adult and evaluate the specific types of housing problems involved: - bathroom facilities - easy access in and out of doors - if woman, how does she manage housekeeping and meal preparation? FHA chapter works with migrant labor camp to care for children, and in process evaluates the housing conditions. Students have discussion to share ideas, based on their experiences with various special groups. Questions: How would these persons have emotional needs met in this particular type of housing? What are the physical factors involved? Do social needs meet any kind of satisfaction?

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Objectives	Conceptual Statements	Beginning Level
2.43 Advanced Level COMPREHENDS the changes in housing requirements as related to societal and family changes.	2.43 When there is a change within the family or within society, it tends to cause variations for the individuals' or families' housing requirements which may be provided for in several ways. The modifications in life situations affecting housing may also influence physical, emotional and social well-being of each individual. - accidents or illness of family member - physically and mentally limited family members - additional members are added to basic unit - unexpected reduction of income - loss of family member	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.42 (continued)
Students, working in small groups, receive pictures of houses and specific rooms in homes and analyze how these would need to be changed in order to accommodate the various groups specified.

2.43 Students begin to think through modifications in life situations which would cause needed housing changes.

Students talk with their own family to determine what changes in housing were caused by variations in the family. Class discussion follows:
- What was the specific change?
- Were immediate steps taken to make an adjustment?
- What kinds of problems were encountered?
- How were these problems modified?

* Students read a case study, written or found by the teacher, which describes a family situation which has altered and subsequently changed the housing needs of the family. Students then analyze the situation considering the physical, emotional and social aspects, and each individualy writes a possible solution to the problem. Students then discuss their various solutions and arrive at a final possible conclusion.

Topical Outline

2.44 Consequences of Housing Choices

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Objectives	Conceptual Statements	Beginning Level
2.44 Advanced Level COMPREHENDS the effect of housing decisions on life styles.	2.44 When an individual or family is located in a particular area, the life style tends to be affected as a result of the housing decision. - location in relation to work, schools, stores, recreation - availability of work, schools, churches, recreational facilities, transportation - safety of dwelling - cost of dwelling - restrictions in particular areas . horses . laundry, hanging clothes . pets . children . garage . burning trash . garbage collection - opportunity for social development such as playmates, common meeting area, individuals with similar interests	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

2.44 Students in small groups brainstorm ideas about life styles being set or changed because of a housing decision.

* Students work on problem concerning what people are looking for in choosing a place. After making choices, students analyze in class discussion why some of the situations would not work and what problems would be involved. (See Appendix 2.44).

APPENDIX 2.0

Glossary

COALITION GROUP - A group of citizens bound together by common interest to further their cause. Examples: Urban League, Consumers' Council, Home Owners' Association.

COOPERATIVE HOUSING - A group of single or multiple dwellings owned by a group of individuals. Each individual owns a share of the total. Maintenance, upkeep, liability and taxes are equally shared.

CONDOMINIUM HOUSING - A group of dwellings connected but individually owned. Taxes and liability are the responsibility of the individual. Residents collectively may pay maintenance, upkeep--public use fee of areas open to all.

ARCOLOGY - A combination of architecture and ecology with the purpose of compacting urban sprawl.

COMPULSORY REHOUSING - The mandatory relocation of people housed in a given area which must be rebuilt or torn down to accommodate a planned housing development, transportation system, urban renewal program, recreational area, or other society-approved project.

MEGALOPOLY - A group of cities grown together to form an enormous, continuous metropolitan area. Expected megalopoly examples are: San-San (San Francisco to San Diego), Boswash (Washington to Boston).

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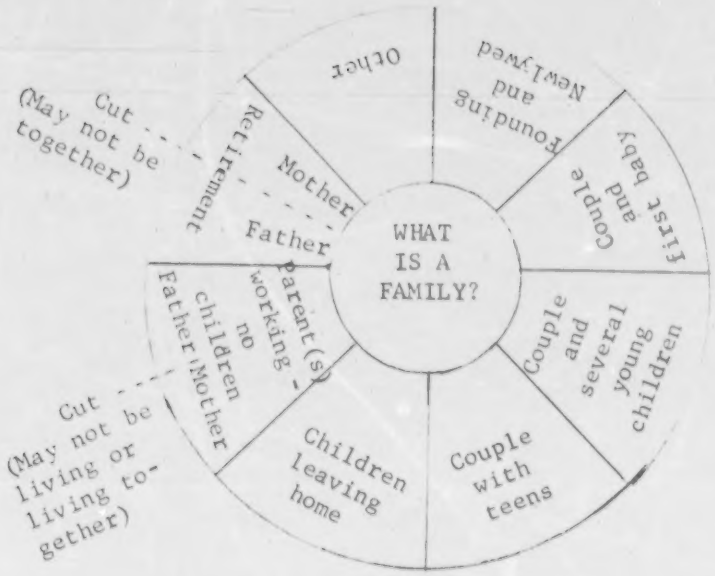
APPENDIX 2.13

Life Cycles



- Newlywed stage
- Expanded family stage
- Crowded years
- Teenage years
- Launching stage
- Empty nest stage
- Retirement stage
- Other
  - one parent & families
  - children living with guardian, aunt, older sister, etc.

Singles:
College
Career or Occupation
Divorced
Divorced w/children, etc.

After discussing each stage of life, see what combinations of (family)? life might evolve. Do this by moving segments of the wheel to make possible (living)? (family)? combinations.

Have one or several in class record the different combinations (or tape record) that evolve.

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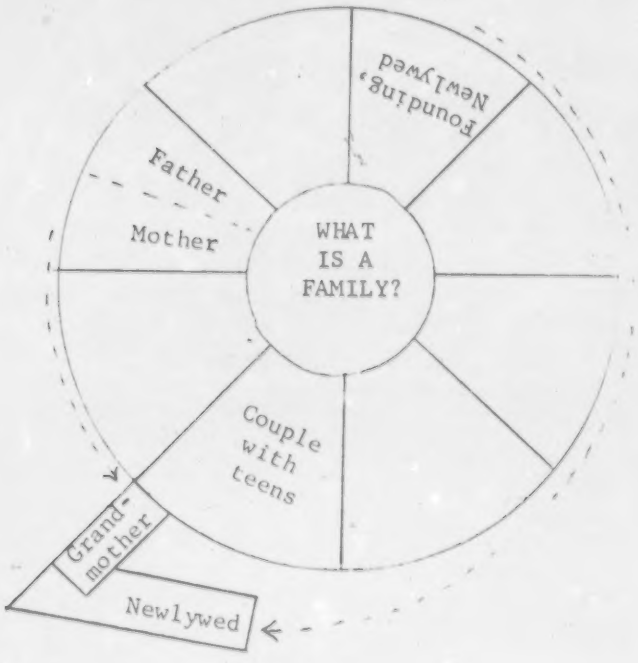

APPENDIX 2.13

Housing and Values Match-Up

(Note: A type may reflect more than one value)

1. Very neat

2. Not very much money

3. Desire to express oneself with one's own talent

4. Need to be important

5. Likes convenience

6. Desire to impress neighbors

7. Need to be warm

8. Be yourself

9. Want a place to live that is safe

10. Privacy

11. Love for nature

12. Love for travel

_____ Small and plain but very comfortable

_____ A place to sleep

_____ Studio apartment

_____ Large, beautiful and elegant

_____ One acre of land surrounding

_____ Nice garden

_____ Built by individual

_____ Small mobile home

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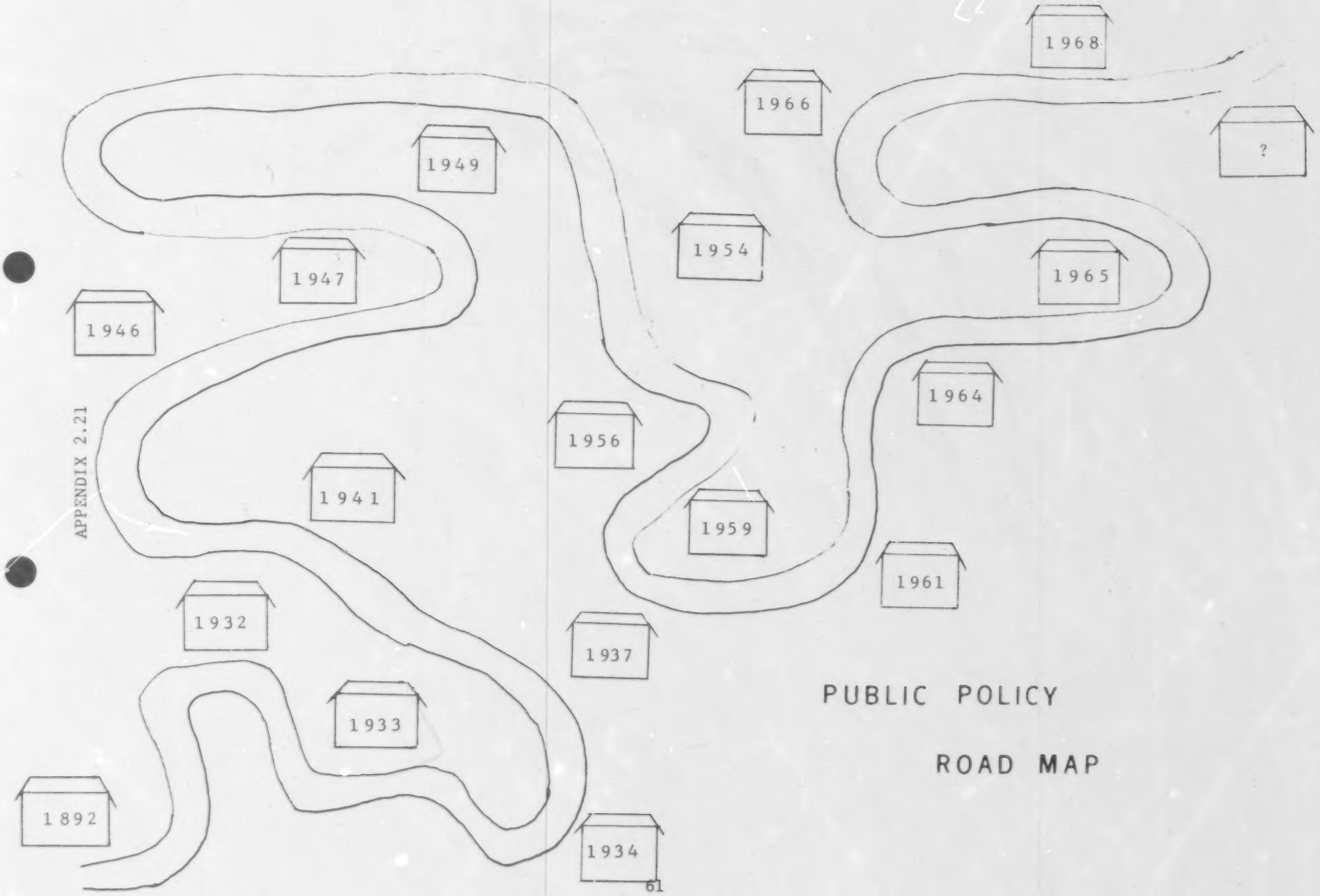
WHICH YEARS WERE MOST SIGNIFICANT TO INDIVIDUAL HOME OWNERSHIP?

APPENDIX 2.21



PUBLIC POLICY

ROAD MAP

APPENDIX 2.21

Historical Perspective of Urban Renewal

The urban renewal program of today did not spring suddenly onto the American scene. Rather, its roots go back many decades when recognition was first made that the great social problems of housing and poverty were of national scale and should be dealt with on that level.

1892 - Congress appropriated $20,000 for the Secretary of Labor to investigate slums in cities of over 200,000 population. The study noted close correlation of saloons and slums.

1918 - U.S. Housing Corporation was established to provide housing for war workers.

1932 - President Hoover's Conference on Home Building and Home Ownership discussed the decline in building and shrinking mortgage credit.

1932 - As a result of the Conference, the Federal Home Loan Bank Act of 1932 was passed. This act established 12 district Federal Home Loan banks as the framework of a reserve credit organization for home financing institutions. It failed in its purpose to provide an adequate volume of funds for mortgage credit.

1933 - Home Owners' Loan Act of 1933 set up a corporation to refinance the mortgages of distressed home owners. It financed over one million mortgages in three years, investing three and a half billion dollars in the process. It was considered quite successful.

1934 - The Housing Ace of 1934 created the Federal Housing Administration (FHA), an agency that lives on today. It also set up the Federal Savings and Loan Insurance Corporation to protect deposits. FHA revolutionized home financing methods by making possible lower interest rates and longer amortized mortgage periods. Improvements in houwing standards were also brought about by setting up minimum physical property standards as a basis for FHA participation.

1937 - The Housing Act of 1937 started the public housing program with the objective of providing decent, sanitary housing for low-income families. It also laid the groundwork for slum clearance by empowering housing authorities, when permitted by state and local law, to issue bonds, and become eligible for Federal loans to cover up to 90 per cent of the costs of combined slum clearance and new low-rent public housing construction. The Act set the principle of basing rental payments on the individual family's ability to pay. It provided for annual subsidy contracts whereby the Federal Government pays the difference between costs of managing the project, including debt amortization, and the rental revenues received.

1940 - Lanham Act provided for Federal financing of war housing. Two million dwelling units were built under this Act during the war.

1942 - The National Housing Agency created by Executive Order was the first attempt to coordinate all Federal housing programs.

1946 - Veteran's Emergency Housing Act was passed establishing the VA program for Mortgage Insurance.

1947 - The Housing and Home Finance Agency was created by the President's Reorganization Plan No. 3. The Federal Housing Administration, the Public Housing Administration, and the Home Loan Bank were all brought under the supervision of the Housing Administrator.

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1949 - Many cities and states were attempting to deal with the slum problem and different renewal-type efforts were made. They usually fell short of their goals for lack of money and as a result, the desire for Federal assistance was made known to Congress from the major cities all over the nation. From this experience, came the Housing Act of 1949 with its now well-known Title I provisions. The act set forth as our national goal the achievement of a "decent home and suitable living environment for every American family." To support this effort, the Act permitted, for the first time, that land areas cleared with Federal aid could be sold or leased to private developers for residential development. It gave recognition to the fact that private financial resources must be attracted to the housing field if the broad objective to the act was to be obtained. The 1949 act became the symbol of the joint effort between public and private interests to clean and redevelop the slums and decently house the population.

1953 - President Eisenhower formed a special committee on Government Housing Policies and Programs. Members of the committee were a cross section of leadership from the major business, financial, and civic interests of the country. This committee's efforts were reflected in the 1954 Housing Act. The objective was to create a total program against slums and blight. Their conclusion was that Federal assistance should be available only to communities willing to undertake a long-range program of slum prevention through sound general planning, and enforcement of housing and building codes. This became the basis for the Workable Program.

1954 - The Housing Act of 1954 incorporated the many recommendations of the President's Committee. Besides the Workable Program, it established the Urban Planning Assistance Program, sometimes called the 701 program, which added a great stimulus to public acceptance of the comprehensive plan and the planning process. The Act also established the concept of rehabilitation by recognizing the desirability of retaining and improving essentially sound structures in an urban renewal area. It recognized for the first time the need for non-residential urban renewal projects to attack blight in business and industrial areas as well as residential. It was stipulated that 10 per cent of all funds could be designated for non-residential urban renewal projects. Today, however, this figure stands at 35 per cent, indicating the trend of the program toward more comprehensive renewal treatment. This Housing Act also instituted the demonstration grant program, whereby the Federal Government would participate in research-oriented projects. The 1954 Housing Act was extremely significant single piece of legislation in the housing and urban renewal field because it oriented the program toward the comprehensive goal of urban revitalization, rather than the single goal of good housing.

1956 - The Housing Act of 1956 established relocation payments for families and businesses; the GNRP, a coordinated urban renewal plan for an area too large for one project; and aid for housing the elderly.

1959 - The Housing Act of 1959 further extended the urban renewal program and created the Community Renewal Program (CRP). This grew out of the need for a comprehensive, long-range programming of a city's renewal activities, both public and private, closely tied to capital financing and land economics. The Act also established special credits for college and university urban renewal projects.

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1961 - The Housing Act of 1961 shifted more of the financial burden from the local communities and placed it on the Federal level. Now three quarters of the net project costs is paid by the Federal Government in cities with less than 50,000 population. The reduction of local financial obligations to a point where the locality puts up just one dollar out of every four has made the program almost irresistible for any city that wishes to face up to the problems of blight. The Act also established the Open-Space Program and the Mass Transportation Program, and greatly liberalized various FHA programs.

1964 - The Housing Act of 1964 authorized code enforcement urban renewal projects intended to attack the beginnings of blight in basically sound areas. To reinforce this technique, special low-interest loans for residential rehabilitation were also authorized. The Act, in addition, liberalized relocation procedures and aid. One significant feature of the Act was that for the first time, air rights development (for low and moderate income housing only) qualified for urban renewal, thus expanding the range of approaches to urban improvement

1965 - The Housing and Urban Development Act of 1965, by its very name suggesting the comprehensive goal of urban revitalization, provided for the formation of a Cabinet-level Department of Housing and Urban Development (HUD). Formulated amid considerable controversy concerning existing urban renewal programs, the Act authorized a remarkable variety of new approaches to urban improvement, including grants for neighborhood facilities, demolition grants, grants for public works and facilities, grants for urban beautification, grants to low-income home owners for rehabilitation, municipal grants for open space; and new public housing policies such as rent supplements, leased private housing, and purchase of existing units. The code enforcement "renewal project" of the 1964 Act, having proved unworkable, was revised as an aid "program." Requirements for General Neighborhood Renewal Plans were expanded to permit inclusion in a GNRP the study of areas not eligible for project activities, but containing related problems. Also provided in this Act was an increase from 30 to 35 per cent of all funds for non-residential renewal. The Workable Program was tightened considerably by the addition of a requirement that it be of sufficient scope and content to furnish a basis for evaluating project need.

1966 - The Demonstration Cities and Metropolitan Development Act of 1966, as its most important feature for urban renewal, authorized the Model Cities Program to rebuild or restore extensive slum and blighted areas through concentrated, coordinated use of physical and social development programs utilizing local, provate and governmental resources. The original empahsis in renewal on housing was reasserted in the Act by requiring the provision of a substantial number of low and moderate-cost standard housing units in the development of an urban renewal area, unless the redevelopment was for predominantly non-residential uses. As an incentive for the Model Cities Program, supplemental Federal Aid to a community was authorized amounting to as much as 80 per cent of all non-Federal contributions to Federally-subsidized projects or activities of the program. Also authorized by the Act, as an incentive to coordinated metropolitan planning, was supplemental Federal aid of up to 20 per cent for certain Federally-assisted projects in compliance with a metropolitan development plan. In certain cases, Federal contributions to urban improvement projects could now ammount to 80 per cent of total costs. Other significant features of the Act include "new town", development through FHA financing; a new FHA sales housing

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program for low-income families 221h-1); grants for surveys of structures and sites to determine historical value; a liberalized non-cash credit policy permitting up to 25 per cent of the cost of a public building, not otherwise eligible, as an eligible project item; and authorizing air rights projects for industrial development.

1968-The Housing and Urban Development Act of 1968, signed by the President as this book was being printed, places its major emphasis on housing and is considered to be the most important piece of housing legislation since the 1949 Act. The Act adds two imaginative programs to house low and moderate income families whose incomes are above the level of public housing. Under the Home Ownership for Lower Income Families Program, the Government will help to pay the cost of the home mortgage, and the Government will help to pay the mortgage interest of the housing project sponsor, permitting him to charge lower rents. Other significant features of the Act include new provisions that relax mortgage insurance in urban neighborhoods; a special FHA risk fund for mortgages in declining urban areas; credit assistance to enable low income families to become eligible for mortgage insurance; assistance to private developers of new towns; creation of a new approach to renewal, known as the "Neighborhood Development Program? which provides more flexibility in planning and permits staged development on a one-year basis; an increase in rehabilitation grants from $1,500 to $3,000; authorization to close out a renewal project when only small parcels of land remain; aid in alleviating harmful conditions in blighted areas where renewal action is programmed but immediate action is needed before renewal can be undertaken; and minor changes in other programs.

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APPENDIX 2.42

Housing for the Aged*

When the characteristics of the aged, their increasing numbers in out population, and the effects of housing on their well-being are considered, the need for planning to meet their specialized needs is understood.

When location and form of housing are being evaluated, the needs, values, and resources of the aged will be contributing factors as to how satisfactory the housing will be.

- older people tend to prefer to live alone if assets permit
- increased age tends to result in decreased physical capabilities
  - . diminishing field of vision
  - . decline in sense of smell
  - . increased sensitivity to noise
  - . increased sensitivity to heat and cold
  - . chronic illness
- continuing need for social and intellectual stimulation; often experience loneliness
- large portion of aged live in structures built before 1939 which are now substandard
- most elderly persons want to stay in familiar surroundings and resist being moved by family or others
- most elderly may need temporary or periodic assistance
- the success of government or group-provided housing for the aged seems to depend upon the attitudes, needs, and values of the individual
- research indicates one out of every five housing units having a head sixty years old or over had deficiencies
- many lack mobility due to physical well-being and/or finances

The process and cost of housing are often affected by the change of income experienced with aging.

- many aged persons have no income from salaries and wages
- median income in U.S. declines sharply for husband/wife families when head is 65 years old or over; income is approximately half that of all families
- while cost of purchasing and maintaining housing increased, the income of most aged is fixed

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* Housing problems identified in the above statements were compiled by members of the Housing Curriculum Committee.

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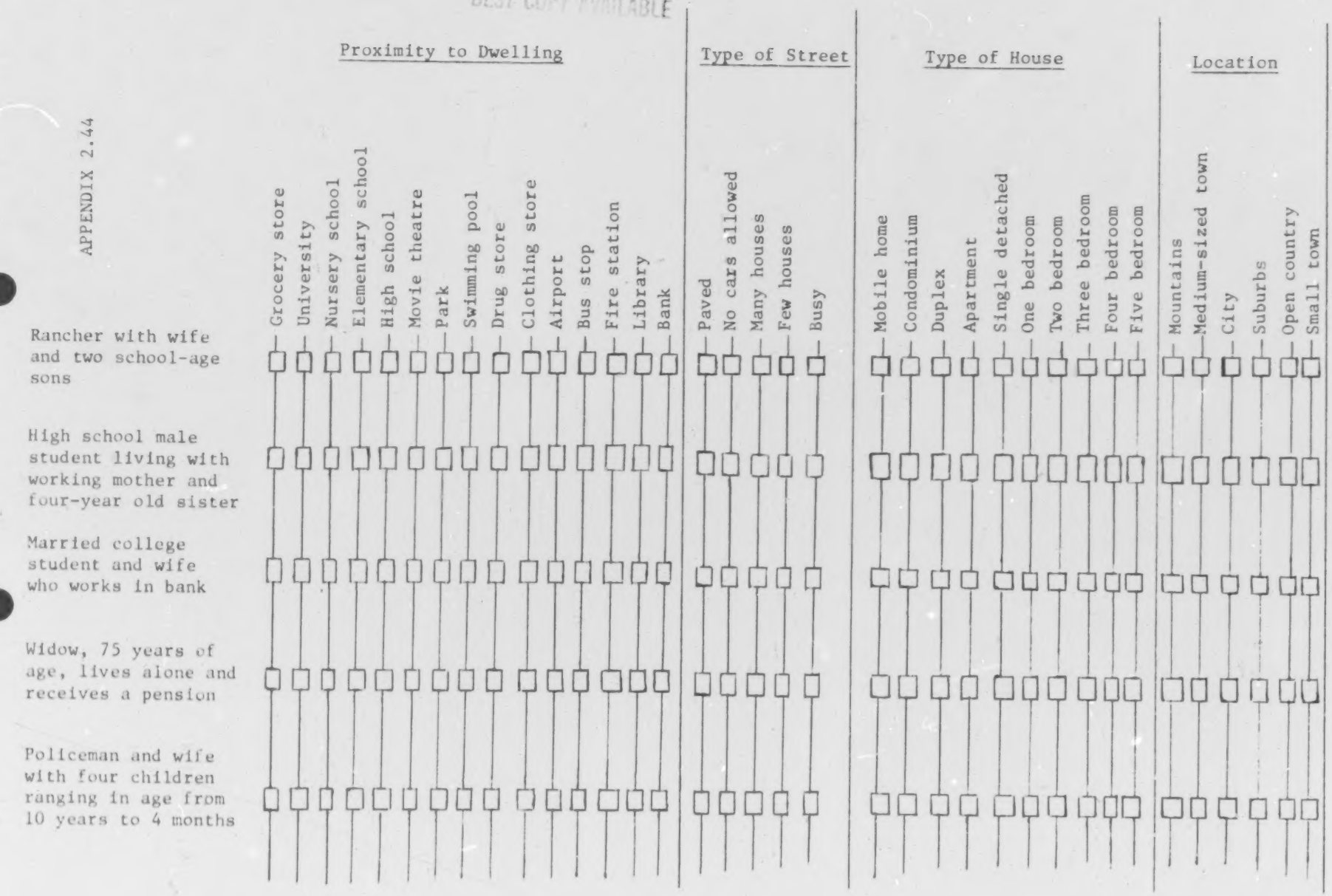
APPENDIX 2.44



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Topical Outline

3.0 Effects of Housing on People

3.1 Effects of Housing on Life Styles and Living Patterns

3.2 Effects of Housing on Basic Needs of People
- 3.21 Physical Health and Safety
- 3.22 Social and Emotional Needs
- 3.23 Use of Available Resources

3.3 Effects of Housing on the Communication of People
- 3.31 Incentives for Personal Interaction

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Topical Outline

3.0 Effects of Housing on People

3.1 Effects of Housing on Life Styles and Living Patterns

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Objectives	Conceptual Statements	Beginning Level
3.0 All Levels ANALYZES the correlation between the effects of housing on people and the quality of living. VALUES considering the correlation between the effects of housing on people and the quality of living.	3.0 Housing affects the quality of living for individuals and families.	3.0 Sequences of experiences for 3.1-3.3 are suggested to achieve this objective. Note: When 2.1-2.13 have been incorporated in the units to be taught at any level; it is suggested that experiences for 3.0 be modified for individual study or dovetailed with those from the preceding area.
3.1 Beginning Level IS AWARE that the housing situation tends to have an effect on the life style and the pattern of living. Intermediate and Advanced Levels COMPREHENDS that housing situations tend to have an effect on the life style and the pattern of living.	3.1 When individuals live in a particular housing situation, it tends to affect both the life style and the pattern of living. Housing situations which affect living patterns include location, non-human resources available, local socio-economic structure, and political structure.	3.1 (See 2.1) Invite speaker, someone who has traveled or lived in various sections of the United states or world or even the state, to discuss how the living patterns of a people are affected by housing situations. Slide presentation may be used along with speaker, or instead of speaker. * Students write a summary, based on the speaker, about the ways living patterns are affected by the particular housing situations.

* asterisk indicated evaluative experiences.

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LEARNING EXPERIENCES

Intermediate Level

3.0 Sequence of experiences for 3.1-3.3 is suggested to achieve this objective.
(See Beginning Level notation).

3.1 (See 2.1)
As introduction, students observe and discuss cartoon from Inside Today's Home, p. 573.

Teacher provides students with information in the concept concerning factors which affect housing situations.

Students are presented with case studies which the teacher has developed from the ideas presented here: Each family's life style is identified with such information as income, occupation, number of children, ages, social class, interests. Different types of housing such as mobile home in Phoenix, apartment in Flagstaff, farm in Willcox might be used for various families. Size and type of housing and family can be developed by the teacher depending on the students being taught. Students discuss how the life style and pattern of living would be affected by the housing situation.

* Each student receives a copy of a case study and discusses on paper how the particular housing situation described affects the life style and pattern of living.

Advanced Level

3.0 Sequence of experiences for 3.1-3.3 is suggested to achieve this objective.
(See Beginning Level notation).

3.1 (See 2.1)
Students receive information:
If the population continues to increase, peoples in the world may have to reside in closer proximity and in less space than is now the situation for many Americans. Privacy is a basic need but may be obtained in various ways as is now accomplished in other cultures.

Students view pictures displayed by the teacher of various types of housing seen in all parts of the world. Some of the houses should be crowded with little storage space and a very crowded sleeping conditions, some with only a central room, and others with many rooms and few people.

Students research various ways different peoples and cultures find privacy in housing and the class discusses the findings particularly relating the ideas to life styles and patterns of living.

Discussion questions:
- In which of these cultures do you feel there is enough space for each individual? Why?
- Is there too much space for some persons?
- In some cultures do you feel there is too little space? Why?

Topical Outline

3.1 Effects of Housing on Life Styles and Living Patterns (continued)

3.2 Effects of Housing on Basic Needs of People

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Objectives	Conceptual Statements	Beginning Level
3.2 Beginning Level IS AWARE that housing conditions tend to have an effect on the development and well-being of individuals. Intermediate Level COMPREHENDS that housing conditions tend to have an effect on the development and well-being of individuals. Advanced Level APPLIES the information that housing conditions tend to have an effect on the development and well-being of individuals.	3.2 Housing conditions tend to affect the physical, social, emotional, and intellectual development and well-being of the people dwelling there.	3.2 Bulletin board of Snoopy, "Security is Having a Home to Sleep On," is used for discussion of housing in relation to human needs. (See appendix 3.2)

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LEARNING EXPERIENCES

Intermediate Level

3.2 A square is drawn on the board with each side labeled with ways people develop--physically, mentally, emotionally and socially.

Students discuss how each of these show outwardly. Idea is developed that a fully-developed person is more like a circle with a well-rounded personality.

Students then discuss how housing can affect the development of the person.

Advanced Level

3.1 (continued)
- What other conditions in their environment might make up for the lack of space in terms of rooms?
- How would this space or lack of it affect interpersonal relationships within the family?
  -- If there were a husband, wife, and two preschoolers, ages 2 and 4?
  -- If there were a husband, wife, grandmother, two teen-age daughters?
  -- If the family consists of mother, daughter aged 2, sons 4, 6, 8, daughter 12 and son 16?

* Students hand in paper about research on peoples and culture and man's search for privacy as related to life styles and patterns of living.

3.2 Students, under teacher's direction, quickly review the basic needs of people. Refer to intermediate level if students require more information.

Students view pictures of people and housing conditions of at least four cultures. For example: India, Central America, Europe, South Sea Islands.

Students discuss how these families' housing conditions either assist or prevent them from gaining basic needs in life. (Family, by Margaret Mead and Ken Heyman).

Topical Outline

3.21 Physical Health and Safety
3.22 Social and Emotional Needs

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Objectives	Conceptual Statements	Beginning Level
	3.21 When housing provides for physical health and safety of individuals, it tends to contribute to their well-being in the following ways: - sufficient sanitation - temperature and humidity control - necessary ventilation - freedom from potential hazards - sound control - light control - protection from enemies (human, animal or natural) - adequate rest	3.21 Teacher, prior to beginning of class, arranges room with many items not conducive to physical safety and health. Students upon entering room are asked to list hazardous conditions. E.g.: - stale dishwater in sink or empty, dried food plates on table - all windows open or shut to create discomfort - knives lying out on counter, broom lying in middle of floor - very loud and disquieting noises produced - inadequate number of lights on in room Students and teachers then discuss reasons why protection of physical health and safety helps individuals in their well-being.
3.22 Beginning and Intermediate Levels COMPREHENDS how one's social and emotional needs are fulfilled through housing. Advanced Level ANALYZES how one's social and emotional needs are fulfilled through housing.	3.22 When housing provides for individual fulfillment of one's social and emotional needs, it tends to contribute to his well-being: - privacy - rootedness - equality - family centrism - creativity - self-concept - status	3.22 Students write down ideas about where they would like to have ownership of an area in their home; e.g., part of the bathroom for grooming items, part of a bedroom for personal collections, time alone in a particular room such as the bathroom or kitchen. Students write ideas concerning kinds of satisfactions one receives from each of the above.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
3.21 Students experiment with physical needs of people such as turning out the lights; playing classical, country, and rock music; and turning chairs away from one another. Each student records his feelings concerning each experiment. See Penney's kit: "The Home - An Environment for Human Growth." (1971)	3.21 Students gain information through lecture or overhead presentation about ways physical health and safety can be provided for in the home. Students then work in small groups to develop ideas about the ways necessary requirements can be implemented in a housing unit. See Penney's kit: "The Home - An Environment for Human Growth." (1971)
3.22 Teacher lectures on physical, emotional, social and intellectual needs of humans as related to housing. Students observe picture of or describe a house nobody wants. Students react to questions: - How would you feel about this house if your best friend lived there? - Would this fact change your opinion of the house? Why or why not? - If you knew your best friend lived there, would this change your opinion of him?	3.22 Students discuss the various social and emotional needs which contribute to an individual's well-being. Students study a two-bedroom house floor plan on the overhead projector and place figures of a family in the house (mother, father and one child). Then more children are added to the family, or an entire additional family. Students analyze how the amount of space per person will influence the way a person behaves, his privacy, his self-concept, his rootedness, his creativity, his family centrism. - What will the person have to give up? - How will the person feel about giving up something? - Discuss how activities in the family will be carried out.

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Objectives	Conceptual Statements	Beginning Level
		3.22 (continued) Students write ideas about what activities occur in the home in areas where family members are all together. Students complete inventory, "I Dig These Things Where I Live." (See appendix 3.22) As a class, discuss how social and emotional needs are met.
	3.23 When one recognizes available resources, this may tend to encourage improvement in areas where housing fails to meet the needs of individuals.	3.23 Teacher, students or guests bring to class items made from available resources which improved a housing situation. E.g.: accessories such as trunks, brick, and board bookcases, dried flower arrangements, or plants. Students brainstorm ideas using available resources for items to beautify the home. * Each student identifies a small project, which would take into consideration physical health and safety, fulfillment of social and emotional needs and use available resources that he could develop to beautify his own home.

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LEARNING EXPERIENCES

Intermediate Level	Advanced Level

3.22 (continued)
Using basic needs, students individually or in groups develop case studies on what happens when needs are not met in the home environment, or students may develop skit and present to class.

Discuss the effects of a home on the needs of people.

3.23 Students view pictures of remodeled homes or visit such a home to further their understanding of how available resources may be used as a basis in order to meet new housing needs.

* Students view two or more pictures of an old home and a remodeled version of it. Students learn that a certain number of people live in the home. Students write why the remodeled house would be more satisfactory in terms of physical, social, emotional, and intellectual development and well-being of the individuals living there.

3.23 Students visit an apartment, mobile home, or house which is available for rent in the community. This housing should be realistically priced in attune with the amount of income a young married couple could currently spend on housing.

Students analyze what resources (individual, natural and material) could realistically be utilized to aid in improving the situation and therefore meet the needs of the couple. E.g.: unfinished furniture, items from garage sales and second-hand stores, paint, creative wall coverings.

Each student may initiate a project at home to utilize available resources.

* Using the housing visited as a basis, students ascertain what physical, emotional and social needs of a young married couple would be met and which would not be met and reasons why.

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Objectives	Conceptual Statements	Beginning Level
3.3 Beginning Level IS AWARE of the correlation between the housing situation and the communication of people within the dwelling. Intermediate Level APPLIES information about the correlation between the housing situation and the communication of people within the dwelling. Advanced Level ANALYZES the correlation between the housing situation and the communication of people within the dwelling and the community. VALUES the correlation between the housing situation and the communication of people within the dwelling and the community.	3.3 When people understand the factors in housing which encourage or discourage communication, they may be better able to arrange more opportunities for desired interaction within their cultural settings. Examples of influencing factors include: - Space - Color - Room Arrangement - Room Relatedness - Dwelling in relation to neighbors' dwellings	3.3 Students attempt to have a discussion such as one student attempts to relate to another what he has planned for the week-end, or students role-play a situation where a student attempts to relate to his mother the fact that he has been invited to a pot party that week-end or he has asked a girl out or has been asked on a date. The students are purposely hampered in their discussion by various physical barriers such as: a large sheet of paper placed between the two so they cannot veiw one another, students placed back to back in chairs, record playing very loudly, the two students conversing stand several yards apart with several other students standing between them. Students and teacher discuss the ideas that physical characteristics such as room arrangement and space are very important in terms of amount of interaction within the housing situation. Students answer questions in discussion such as: Where in a home do you feel comfortable talking to people and why? How much space do you like to have between you and the person with whom you are talking? What conditions are necessary for privacy in a crowded room? * Students using a room drawn to scale arrange scale furniture into arrangements positive for communication.

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LEARNING EXPERIENCES

Intermediate Level

3.3 Students are asked to crowd together in one kitchen using as little space as possible. Students are then asked to communicate with each other. After five minutes students return to normal seating arrangement and iscuss what effects the crowding had on conversation.

Students work in small groups and brainstorm ideas about where two or more people are able to communicate best in terms of room arrangement and space.

Students receive copy of "How This Color Makes Me Feel" (See appendix 3.3). The colors in this situation represent the color of a room. Students match the adjectives with the color.

After completion the students and teacher share ideas about the colors and adjectives and draw generalizations about the color of rooms and how this would affect interactions and communication.

* Students determine in written form a room arrangement and space which is conducive to communication and reasons why. They also relate which colors are most relaxing and encourage interaction.

Advanced Level

3.3 Students are presented with information about factors in housing which encourage or discourage communication.

Using the illustrations of simulated adjacent apartment locations (see appendix 3.3), teacher discusses with students the following questions:
- Where would you place the doors in order to aid personal interaction?
- Where would you place the windows for privacy as well as communication?
- In which apartments would it be most difficult to meet your neighbors?
- Which apartments would grant you the most privacy but also provide good opportunities for communication?
- What could be done to aid the situation in No. III to encourage communication between the inhabitants?

Students view many variations of types of housing through pictures, slides, or opaque and then discuss.
- Very busy street with housing units
- Street where no cars are allowed; only dwelling units
- Apartment buildings - some with central pool, others with no common meeting place
- Private dwellings with open back yards
- Retirement homes or areas
- Condominiums
- Mobile Home Parks
- Cul-de-sacs
- New suburban housing developments

Questions for discussion:
Which housing would encourage you to become acquainted with your neighbors?
Which type of housing might be conducive for the people to develop good communication with those living near?
Which housing would be difficult for one to meet others? Why?

Topical Outline
3.1-
3.3

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Objectives	Conceptual Statements	Beginning Level

LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

3.1-3.3 Students receive a dittoed copy of the floor plan.

If students are from middle class homes, discuss how this floor plan would affect privacy and communication within the family. Present a family situation. E.g., father, mother, boy 10 and girl 5.

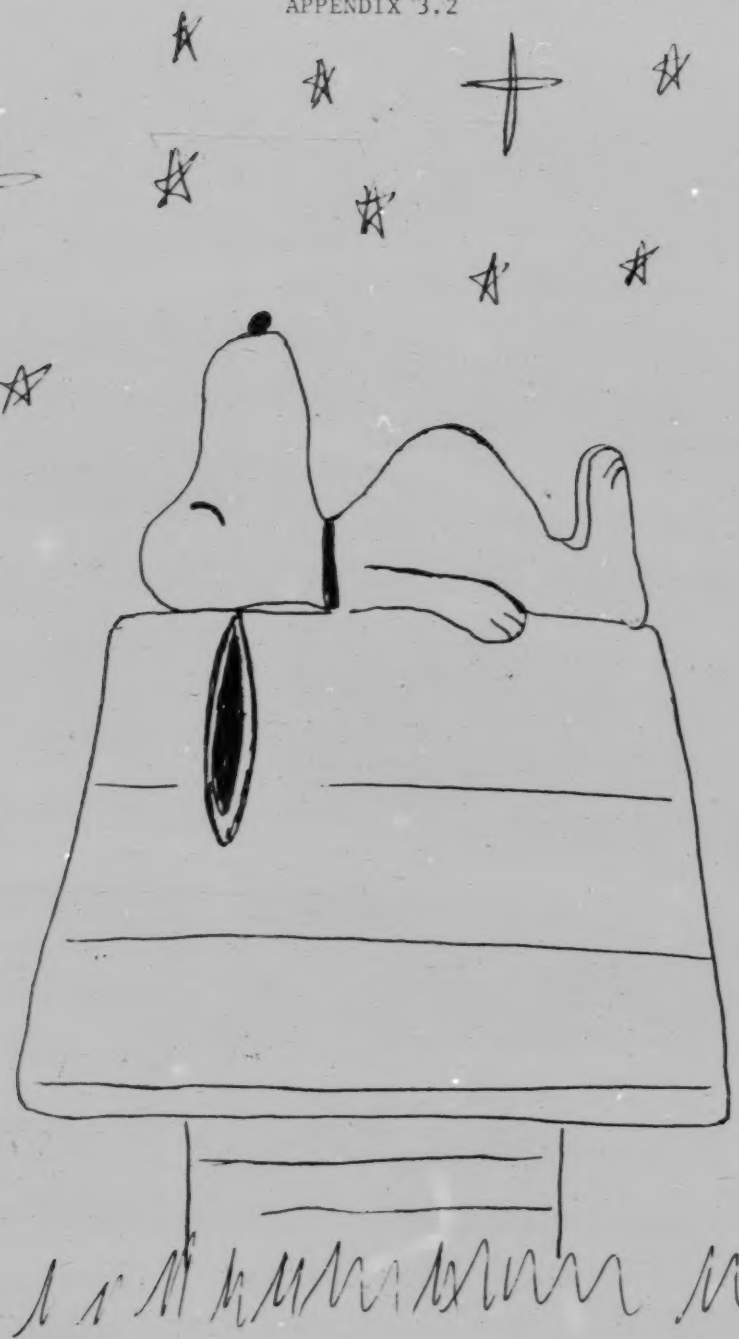
Students observe floor plan and answer questions such as: Why is bathroom in inconvenient position? Why are doors to bedrooms very poorly placed? Why would kitchen not be convenient?

Students then determine ways the floor plan could have been designed to facilitate more privacy and better communication.

OR

If students are from lower class homes or may reside in homes similar to the one in the floor plan, students should determine ways the house, in its present state, could provide for more privacy and areas for communication. E.g., furniture arrangements, screens, bookcases, etc.

3.1-3.3 * Each student selects a particular life cycle situation and a specific individual in the stage and draws a type of dwelling and/or floor plan. The student then analyzes the advantages and disadvantages of this dwelling for the life cycle situation utilizing all concepts in 3.0.



SECURITY IS HAVING A HOME TO SLEEP ON ....

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APPENDIX 3.22

"I DIG THESE THINGS WHERE I LIVE"

	Privacy	Security and Belonging	Respect of Others	Family Togetherness	Space for Hobbies	I can be me.	A Place Where I Can Bring My Friends
Hardly at all							
Same							
More							
Not at all							

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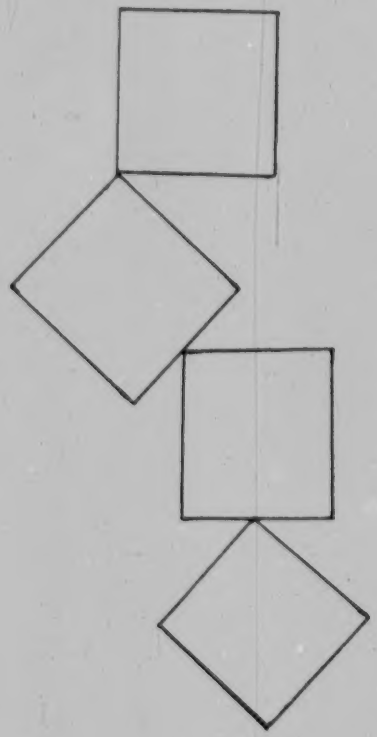
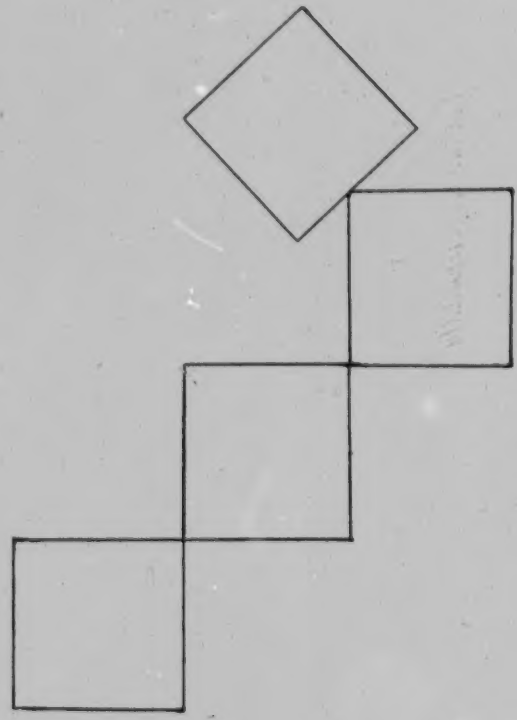
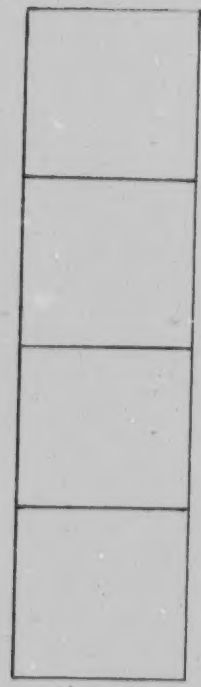
Apartments I



Apartments II



Apartments III



APPENDIX 3.3

See 3.3 Learning Experience for additional information concerning the use of this material.

APPENDIX 3.3

"HOW THIS COLOR MAKES ME FEEL"

See 3.3 Learning Experience for additional information concerning the use of this material.

(Teacher either shows colors to students or includes the colors on the sheet.)

Match the adjective with the color which best expresses your feelings.

Suggested Colors:

Red
Orange
Yellow
Green
Blue
Purple
Black
White
Gray
Brown

1. Somber _____
2. Joyous _____
3. Sad _____
4. Comfortable _____
5. Regal _____
6. Serious _____
7. Cheerful _____
8. Hostile _____
9. Calm _____
10. Depressed _____
11. Energetic _____
12. Dull _____
13. Happy _____
14. Restful _____
15. Peaceful _____

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Topical Outline

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4.0 Expression and Creativity Through Design of Housing and Furnishings

4.1 Design Principles and Elements
- 4.11 Elements of Design
- 4.12 Principles of Design
- 4.13 Integrity of Design and Materials

4.2 Designs for Housing
- 4.21 Architectural Design
  - Influence of Design History
  - Influence of Contemporary Architects and Designers
  - Influence of New or Technologically Changed Resources
- 4.22 House Plans
  - Living Areas
  - Storage Areas

4.3 Achievement of Beauty in Housing and Furnishings
- 4.31 Styles, Trends and Fads
- 4.32 Selection of Design
- 4.33 Application of Design
  - Exterior
  - Interior

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Topical Outline

4.0 Expression and Creativity Through Design of Housing and Finishings

4.1 Design Principles and Elements

Objectives	Conceptual Statements	Beginning Level
4.0 All Levels ANALYZES the need for creativity in surroundings as a means of self-satisfaction and self-expression in housing.		4.0 Students take pre-test designed for unit and administered to determine the degree of understanding and appreciation students indivfdually have obtained previously.
4.1 Beginning and Intermediate Levels IS ABLE TO APPLY design principles of housing and furnishings in relation to providing the individual with a satisfying life style in accordance with his values, heritage and resources. Advanced Level IS ABLE TO ANALYZE design principles of housing and furnishings in relation to providing the individual with a satisfying life style in accordance with his values, heritage and resources.	4.1 When the individual applies the design elements and principles creatively to housing and home furnishings, he may develop more satisfactory housing solutions in accordance with his values, heritage and resources.	4.1 Students are asked to bring from home a decorative object which they feel is important to them because it is creative, represents their culture, their life style, or is of sentimental value. Each student tells why the object is of great worth to them personally. OR Students are asked to bring pictures or draw pictures of new concepts in housing design. Students participate in a discussion to bring out design elements and principles considered in each.

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LEARNING EXPERIENCES

Intermediate Level

(See Beginning Level)

4.1 Students compare two objects, one illustrating and combining many principles and the other not in keeping with most principles.
Discussion question? Why is each pleasing or displeasing?

A comparison is made of two well-designed art objects, one ultra-contemporary and the other very traditional. Discuss how both may be interesting, although very different in design and nature.

Using the art principles and elements, students design and make a simple art object for the home.

Advanced Level

(See Beginning Level)

4.1 Students view slides of great architectural feats from around the world and discuss the art principles and elements combined for these designs.

If poor designs are available, these are viewed and evaluated by students.

Students find pictures of simple structures which adhere, and ones which do not adhere, to principles.

Students discuss how the combination of elements and the use of design principles in housing can affect the satisfaction individuals find.

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Objectives	Conceptual Statements	Beginning Level
	4.11 When the elements of design are understood, a person may be better prepared to select and create housing styles and home furnishings in relation to his life style. Design elements considered are: color, line, form and texture. Newly suggested elements are: motion, light and time, sound and temperature. Through the use of these elements, it is possible to manipulate the environment to create impressions that help in meeting the individual's housing needs. People differ in how they select and use design elements because of personal preference, emotional effect, cultural background, past experiences and resources available. The design elements can be used to create moods, to emphasize or de-emphasize parts of rooms or objects, to give personal pleasure or displeasure, to influence productivity and safety.	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

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Objectives	Conceptual Statements	Beginning Level
	4.11 Color - Color is the reflection of varying rays of light which influence optical effects.	4.11 Color Students fingerpaint, using primary colors red, blue and yellow to make various colors. OR Students view transparencies of warm colors, cool colors, shades and tints of colors and record feelings about each. Discussion questions may include: - Does personality have anything to do with feelings concerning color? - Does the use of color in a home differ from use of color in clothing? How? - How could one make a room restful, lively, dull or fun? E.g.: . use bright intense color to direct attention to a specific area. . use dull, drab color to distract attention to an unattractive part of a room. . restaurants may use bright intense colors to create lively exciting atmosphere. Teacher provides dittoed sheets of rooms in black and white for students to select from, or gives one style and asks students to create color schemes or combinations using paints, colored pencils, or fabric and floor samples. Students are to use color to create color schemes which are warm, cool, restful and lively rooms. Students, using color card deck, play rummy using the common color schemes. (Dick has color families from the color wheel as "books" in the deck.)

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LEARNING EXPERIENCES

Intermediate Level

4.11 Color

Students are asked what their first and second favorite colors are. Teacher then provides students with fun interpretations of color and personality (see appendix). Students discuss how descriptions appear to fit or not to fit.

Students identify how certain colors appear to dominate homes and how these relate to the personality of those who dwell there.

Teacher demonstrates with color transparencies how primary colors are combined to make secondary and intermediate colors. White and black are added to colors while students note changes.

Teacher leads discussion of tints, shades, intensity and values. Illustrations of each are related to housing.

Review color wheel using bulletin board, "Brighten Your Day With Color." (See appendix)

Students are asked to explain how they would feel if they were placed in a box as large as a refrigerator with various colors such as red, green or blue, and what would be their reaction.

Students discuss the effect color can have on people such as warm color making a person feel warm and giving a room a feeling of friendliness, and cool colors making a room feel formal.

Students view film or filmstrip on color (see references).

Advanced Level

4.11 Color

Teacher constructs a room of poster board having three sides and a floor, using the scale 1" = 1'. Samples of wallpaper and colored paper are cut to fit the three walls. Floor coverings are cut to fit the floor. Various fabric samples large enough to drape should be available to combine with the room.

Students and teacher together combine color schemes and discuss how these were combined to create satisfaction for the individual. Note that many color combinations such as the use of red, white and blue are pleasing, although they are not considered a standard color combination. Also, amount of color may be varied to illustrate weighting the color scheme.

Teacher darkens room and uses color wheel which rotates with light behind it to create a variety of moods for the classroom. As students are seated, they are asked to disucss their feelings concerning the atmosphere.

Class discusses use of color to create moods and to emphasize or de-emphasize areas of a room.

Students are given a ditto of a room and asked to create a certain mood through color, using crayons or chalk. Then each is asked to emphasize certain areas, using color.

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Objectives	Conceptual Statements	Beginning Level
	4.11 Line and Form - Lines are straight, angular or curved and may be used to portray excitement, tranquility, rhythm, strength, grace, etc. - Form is the three-dimensional element of any shape or mass.	4.11 Line and form A bulletin board using various geometric forms and lines is prepared by students. Lines are of various thickness and color. Students are directed to make one area most dominant; another area to create an optical illusion; other areas where horizontal, vertical, or curved lines are prominant. Students discuss various examples of line about them in the classroom. Examples of lines to create optical illusions are viewed and discussed. Students find illustrations of line used to carry out a design. Magazines or drawings might be used. Students discuss different examples found. OR Students create arrangements such as collages or dried flowers using the element of line as a basis for design. OR Students take a nature walk and find various lines used by nature for homes. E.g.: Ant hill - curved.

* Asterisk indicates evaluative experiences.

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LEARNING EXPERIENCES

Intermediate Level

4.11 Line and Form

Teacher places in a container a group of fruits of various types such as a banana, an apple, an avacado and a cantaloupe. Students discuss similarity in line but resulting differences in form.

Discussion questions:

- Does a curved line always give the same appearance in every object?
- Is an apple less rigid in shape than a straight, tall tree?

Students use the following combination of lines to create a drawing:

- vertical and horizontal
- horizontal and diagonal
- vertical and diagonal
- vertical and curved
- horizontal and curved
- diagonal and curved

Each student is then given two of the combinations to find in pictures in magazines.

OR

Several abstract paintings are viewed by students who record various lines and forms which they can identify as the dominant factors.

OR

Students blindfolded are given various forms such as a rock, a board, a ball, and a flower with a stem. Students then identify line and form of the object.

Students discuss use of lines together in rooms and which appear to provide restful, lively, dull and warm rooms.

Students analyze own rooms to decide which type of lines prevail and what type of mood this provides.

Advanced Level

4.11 Line and Form

Transparencies of housing types (see references) are used to discuss how architectural styles are based upon line design to create various shapes. E.g.:

- form homes, dome homes - curved lines
- A-frame homes - triangular lines

Discussion questions:

- How do the exterior lines of a home affect interior use of line in furnishings?
- How does architectural line affect landscape?
- How is the idea of line used when a shopping center, a group of community buildings, or a group of school buildings are considered?

OR

Students create their own house designs emphasizing line.

OR

Students do research on home designs to trace various trends in line over the centuries.

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Objectives	Conceptual Statements	Beginning Level
	4.11 Texture - Texture is surface interest and can be used to create variety.	4.11 Texture Teacher assembles a large collection of various textures for students to examine. Each student records his feeling about each item on paper. Teacher demonstrates how different textures may be used together to create variety in a room. Students list a variety of textures in room currently and determine how they could add or subtract to create a more interesting room.
	4.11 Sound - Sound is the combination of vibrations. . People differ in their reaction to sound and in their abilities to tolerate levels of sound.	4.11 Sound Students experiment with loud and quiet music, sharp and dull sounds, and record reactions. Discussion questions: - How does sound affect the manner in which a family lives? - How do people react when too much noise is evident? - How can noises which are obtrusive be solved by materials used in building or furnishing?

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LEARNING EXPERIENCES

Intermediate Level

4.11 Texture

Teacher and students review characteristics of texture.

Teacher assembles large variety of textiles, floor coverings, i.e. for housing. Picture frames or boards may be used for draping and placing textures in a grouping. Students make arrangements of textures which may include decorative objects. If available, students may make displays of textures, colors and line for display windows.

4.11 Sound

Students discuss various noises they find frequently in their neighborhoods.

Students take a survey of three groups of people to find how at least two groups view various noises. Groups may include:

- other students
- parents and neighbors
- a group of mine workers or factory workers
- a group of office workers

Survey questions should include what sounds at home are the most annoying and why, which sounds are relaxing and comforting, for what length of time are you comfortable with certain sounds such as radio, loud stereo or tapes, dishwasher, vacuum cleaner, typewriter, blender, i.e.

Advanced Level

4.11 Texture

Students are given pictures, floor plans, or model of rooms already designed which have little variation in texture and are asked to change rooms by changing the texture.

OR

Teacher displays various building materials such as a cement block, a brick, a piece of steel, styrofoam, smooth board, glass, shake shingle, etc. to illustrate differences in texture used in building.

Students find illustrations of the use of varieties of texture in housing in magazines.

OR

Students view pictures of various illustrations of buildings which use little variation as well as great variation.

OR

Students take field trip to examine various types of textures in model homes both in exterior and interior areas.

4.11 Sound

Students explore research done on sound and human behavior and development. Suggested topics:

- Noise in the kitchen and the individuals' health.
- Noise in factories as related to deafness and inefficiency.
- Sound used to inspire creativity.
- Methods of using sound for enhancing surroundings.
- Acoustical materials.

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Objectives	Conceptual Statements	Beginning Level
	4.11 Lighting - Lighting provides illumination in varying degrees. . When it is of suitable quality for purposes intended, it contributes to safety, efficiency, health, and decorative effects.	4.11 Lighting Class discusses problems of lighting. - How safe are lighting fixtures? - Is lighting in place where needed? - Is a variety of lighting available for various activities? Students identify problems in lighting at home and attempt to find solutions for such.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

4.11 Sound (continued)

Students discuss results of foregoing survey and determine how homes can remove unwanted noise.

E. g.:
- styrofoam squares used for absorption
- closing doors quietly
- oiling squeaky hinges
- hanging draperies or covering floor
- surfaces to absorb noise
- egg cartons for acoustical purposes

4.11 Lighting

Speaker from a public utility company demonstrates for students various lighting effects with different types of lighting.

OR

Teacher using various types of lighting which might be placed on a wooden panel illustrates how lighting can affect room and atmosphere.

OR

Students demonstrate various ways light can be used for decorative effects.

Class discusses how lighting can hinder or provide a satisfying housing setting.

4.11 Lighting

Students take field trip to a group of model homes to examine various types of lighting, and using a check sheet they analyze the adequacy of the lighting throughout each home.

Discussion following should include alternative solutions to problem lighting areas.

OR

Where model homes are not available, visit an older home and examine lighting.

OR

Using floor plans of houses with furniture already arranged, analyze lighting needs.

Topical Outline
4.2 Designs for Housing
4.21 Architectural Design

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Objectives	Conceptual Statements	Beginning Level
4.2 All Levels IS ABLE TO APPLY knowledge of architectural design and house planning in a manner which brings about a desired life style for the individual or family.	4.2 When knowledge of architectural design and house planning is applied to housing decisions, a more satisfying life style may be available for the individual and family.	
4.21 All Levels COMPREHENDS the history, available material resources and contemporary design in relation to the individual's architectural and interior design needs.	4.21 When the individual has a concept of the history, available material resources and contemporary design, he will be able to make knowledgeable decisions concerning his individual architectural needs. The history of design through various cultures when studied provides a basis for judgments for contemporary design. Design history is interwoven with cultural patterns allowing for very ornate design or extremely simple design. - Examples of the ornate: English and American Victorian French Louis XIV and XV - Examples of the simple: French Empire English Queen Anne American Shaker	4.21 Students view films or pictures describing several periods of culture of the past. Each student is asked to pick out the distinctive designs and patterns of living in each. The great religions of the world are discussed in relation to types of designs some religions have added to housing. If a guest speaker is available with slides depicting various religious or cultural designs in housing, he may be asked to make a presentation to the class. Students may play a game similar to baseball. The questions are descriptions of various cultural and religious designs in housing. Each student has three chances to guess the culture or religion. Students organize an "Around the World with Cultures Night" for parents. Each group of students takes one culture's housing and living patterns and develops a booth which illustrates and demonstrates their basic life styles.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

4.21 Each student does a research paper on a particular culture and period in history to become familiar with that particular period of architecture and design. Following the completion of the research, students present an illustrated history of architecture and design to a beginning art class or housing class.

OR

Following presentation of research by class members, students are asked to draw their concept of a house using ideas from at least four other periods and cultures in history. Each design is explained accounting for the influences illustrated. A collection of designs may be placed in a display case for viewing at school or a public library.

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Objectives	Conceptual Statements	Beginning Level

4.21 (continued)

Design in many cultures is an expression of religious significance. E.g.:
- Far Eastern temples and buildings with roofs of many points to prevent evil spirits from sitting on the roof.
- African and South Sea Island carvings on interiors and exteriors to please certain gods.

When individuals are familiar with contemporary architecture and architects, they are better able to make decisions concerning their use of and value of housing about them.

Toward the end of the nineteenth century, design began to move into a new period which became the basis for the present day architecture.

Contemporary architecture had its beginning with the art Nouvean Period and the Modern Period which followed.

Contemporary architects and craftsmen are more abundant and relate to not only housing for the elite but for the masses.

A few prominent designers and architects who have greatly influenced American trends today include:
- Louis Sullivan, Architect
- Frank Lloyd Wright, Architect

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

4.21

Students participate in a teacher-led discussion of the Art Nouvean Period, the Modern Art Period and the Contemporary Period.

Students then are asked to find illustrations of designs from these three periods to show and discuss with class.

Groups of students then take one or two contemporary architects and designers to research. Each group is to find a creative means of presenting their artist to the class.

* Students write a summary of how these architects and designers have influenced the furnishings and house in which they live, or a picture of a home taken from a magazine.

OR

* Students from art classes who have studied these designers may be asked to make presentations.

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Objectives	Beginning Level
4.21 (continued) - Mies Van De Rone, Architect - R. Buckminster Fuller, Architect - Herman Miller, Furniture Designer - Charles Eames, Furniture Designer - Hans and Florence Knoll, Furniture Designers - Eero Saarinen, Furniture Designer - Paul McCobb, Furniture Designer - Jack Larsen, Fabric Designer	4.21 (continued)
When individuals comprehend the various periods of architecture and design in relation to the life style hoped to be achieved, they may be able to develop a plan for obtaining this end.	
When the individual is familiar with the technological advancements in materials used in housing and furnishing, he may be able to better interpret his desires into reality.	Students are each given a piece of one new type of material for use in housing or home furnishings. Each student is to describe on paper the qualities of the material he has been given and what objects could be developed from it.
Materials including wood, brick, concrete, tile, stone, fabric, glass, metal and plastic through technological advancements are available for use in varied forms as the individual desires.	Together the class discusses the materials and the relationship to new developments in housing and home furnishings. What are the differences in possibilities today as opposed to the past?

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

4.21 (continued)

Students use display of objects and fabrics or pictures of such objects or buildings developed by contemporary architects and designers to discuss styles adopted by these artists. Possible discussion topics:

- Similarities and differences in design styles
- Lines and designs adopted by mass production firms
- Relationship of these designs to those of past centuries

Students find objects utilizing lines and designs developed by contemporary designers and illustrate how these may be used in relation to several homes and rooms.

An additional problem might be to develop an item on a limited budget which would include the basic contemporary design lines of one or more artists.

Students research materials available today and their possibilities for future buildings and home furnishings.

Students develop from a new material an object suitable for the home.

A display of items made may be exhibited in a public place, the school library, or a display case.

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Objectives	Conceptual Statements	Beginning Level
4.22 Beginning and Intermediate Levels COMPREHENDS the organization of space and furnishings in the home for the optimum development of family members. Advanced Level APPLIES the techniques of organization of space and furnishings in the home for the optimum development of family members.	4.22 A contribution to the full development of people is made when space in the dwelling unit is organized to house the individual family members and possessions adequately. Arrangement of space to promote full development of a family is influenced by the composition and activities. An analysis of activities of family members as related to their goals provides clues to space organization. E.g.: - frequent/infrequent - group/private - fixed/floating - loud/quiet Space organization involves recognition of available space inside and outside the dwelling which includes the barriers and openings in such space. - number and size of rooms - location of rooms - architectural features of a room - outside areas adjacent to dwelling When space is organized so that the paths which people take within a room, from room to room, and from outside to inside the dwelling provice effective circulation, a contribution is made to the needs of the family.	4.22 Students enter home economics room with furniture arranged in a manner which is not functional for the number of students in the class and their activities. Students are asked to analyze what problems are involved with the present seating arrangement. The class lists activities which are conducted in the room. Space, frequency, group or individual activity, and amount of movement are all considered. Together, students and teacher decide on a new plan for arrangement of furniture in the classroom. Each student considers his own room and the types and amounts of activities which take place in it. The number of people sharing the area, their ages and their hobbies are listed. Each student makes a drawing showing how his room could be organized to fit all the needs of the individual family members sharing the space. With the drawing the activities, i.e., are listed and reasons given for the selected room arrangement. Several students may be asked to present their drawings to the class.

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LEARNING EXPERIENCES

Intermediate Level

4.22 Students examine various rooms shown on the opaque projector, on the overhead, or in pictures. Rooms may indicate space for group activity, individual activity, work activities, recreational or hobby activities. Students are given three case studies of families with names, ages and interests of family members indicated. Having this information, students determine what possible problems would exist for each family in the various rooms examined. What are some possible solutions?

Students are given drawings of three dwellings--a one-room house, a four-bedroom home, and a mobile home. Students draw lines where traffic would flow throughout the dwelling for a family of four.

Class discusses the paths taken by family members within the house and to the outside. Various zones of the home are determined, such as the quiet,

Advanced Level

4.22 Students select house plans for each of the following family groups:

- a young couple
- a couple with a small child
- a family with five children from preschool through high school
- a single person

In each plan, the student selects and arranges furniture for the activities of each family. Traffic patterns are identified. Students give explanation of activities of each family, the furniture needed for each, and the reasons for arrangements.

Students visit model homes to analyze the traffic patterns and furniture arrangements. Particular attention is given to storage and work areas.

Using diagrams of model homes, students determine the function of work and storage areas and how well each of these models would meet the needs of people who would occupy the dwelling.

* Students are given case studies to analyze for housing needs.
  - Case Study I--The first family has three children: a boy age two, a girl age six, and a boy age thirteen. In addition to the normal activities of the family, special ones include entertaining friends frequently, boy scout meetings, and piano lessons for one child.
  - Case Study II--A couple with no children who enjoy camping, entertaining friends, and home hobbies of sewing and reading are looking for a place to live.

Students develop a dwelling suitable to each family's needs. Furniture should be selected and arranged, keeping in mind the various areas of the home and the individuals the home will serve.

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Objectives	Conceptual Statements	Beginning Level
	4.22 (continued) When living space is organized according to needs and activities of the family, a contribution to human development is made. Some examples of principles for organization of activities are: - furniture in logical location - furniture grouped for particular activities - furniture grouped for more than one activity at a time in a room - furniture arranged for the basic functions of family members	4.22 (continued)
	When space for storage is planned and organized according to individual family needs, full development of family members is more likely to occur.	Students divided into groups are given a variety of storage situations to solve. E.g.: - two girls must share a small closet - a girl has only closet space and no drawers - a family shares a one-room dwelling and there are no closets Given several items for storage, groups of students arrange items in drawers, boxes and shelves. Items might include clothing, cosmetics and books.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

4.22 (continued)

work, activity, storage areas. Discussion questions may include:

- How should traffic patterns relate to various areas of the home?
- Is there any area which should have relatively few traffic paths?
- What are the barriers to easy traffic flow within the dwelling and to the outside?

Students view transparencies or pictures depicting various furniture arrangements for individual and family activities. E.g.:

- arrangement for games, conversation, dining, studying
- grouping for more than one activity in a room

Following class discussion, students divide into groups which arrange furniture in each of three dwellings, keeping in mind normal family activities and traffic patterns already established for the family of four.

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Objectives	Conceptual Statements	Beginning Level
	4.31 When architectural and furnishings selections are being made, the differences in styles, trends and fads may be considered. Styles are those design ideas which achieve enough longevity to be classified in one category and are accepted over a period of time. E.g., French Provincial. Trends include items of one or several styles which appear to be going popularly for a given period of time. E.g., Mediterranean furniture. Fads include items of a short duration which may be acceptable for those wishing to establish a temporary living style. E.g., plastic blow-up furniture.	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
4.31	4.31
Students visit furniture store or examine pictures of home furnishings to differentiate between styles, trends and fads. Following field trip, discuss how the economy of a country also helps determine styles, trends and fads.	
	4.32 Students discuss preferences of styles and trends and how a family's life style affects the selection.

Topical Outline

4.33 Application of Design
- Exterior
- Interior

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Objectives	Conceptual Statements	Beginning Level
	4.33 Designing in any aspect of housing from past to the future offers opportunities for self-expression and self-satisfaction.	4.33
	Exterior design includes architectural style, landscaping and gardening, and may provide sources of beauty in housing.	
	Interior design includes furniture styles; arrangement; room relatedness; floor, wall and window treatments; lighting; storage; and accessories such as wall hangings, flower arrangements and art objects, and provides opportunities for self-expression and satisfaction.	Students work in groups to create interesting displays of art treasures and objects common to the homes of the area such as Mexican glass or tin, and Indian rugs or pottery. Students select and bring to class memento-type objects from their own rooms. These are arranged on a burlap-covered piece of wallboard which could be used as a wall hanging. Different colors of burlap may be tried for effect. Students may discuss what simple household item could be used for a wall hanging collage. Students make a simple inexpensive decorative object for the home.

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LEARNING EXPERIENCES

Intermediate Level	Advanced Level
4.33	4.33
	Students discuss why some people landscape and create gardens while others do not. Ideas which could be discussed are hobbies, status, neighborhood pressures.
Students experiment with placement of accessories on a desk, a table, and a wall. Different types of background fabrics, paper and wood may be used for background.	A guest speaker from a local wallpaper, ceiling or window treatments shop is invited to demonstrate creative ways of designing for these areas.
Discuss the many accessories which may be made at little cost for the home. E.g.: brick and board bookcases, wall hangings, tin can centerpieces.	Students develop refurbishing ideas for an actual situation in the school.
A garden club member or florist is invited to demonstrate to the students simple types of Japanese flower arrangements which show scale and design.	
Students each then create such a design themselves.	
OR	
Students collect all kinds of inexpensive articles suited for use in flower arrangements such as pebbles, rocks, driftwood, dried pods, grass, manzanita roots, old dishes, pottery, bottles, and other things common to the locale. Have each student develop an arrangement of flowers, weeds, pottery, or fabrics. Arrangements could be entered in local flower show.	

Appendix 4.1

What's Your Favorite Color ?

Yellow--- is the color of the high-minded. Often the favorite of the intellectual, it is preferred more by women than by men. People who go for yellow may go in for strange cults; they are almost certain to be reformers. At first impression they usually strike others as cold fish, untouched by and uninterested in approval or warm human interchange. Their tempers appear under control, but the ire is there, nevertheless, and so are strong desires for flattery and acceptance. If you get this kind of person angry enough, you'll find yourself put properly in your place. Though the yellow type is inclined to be stand-offish, she can and does make lasting deep friendships. She can keep secrets. She gets along best with other yellow-lovers, lone-wolves like herself. She should persist in cultivating her mind for it is fertile and rich.

Red------ people live by their guts, human, hearty, and vigorous, they go through life looking for fun, finding it and enjoying it-- and being envied by others because of it. Red's needs swing from high to low and back again. If he commits a sin, he has to confess it--to get it out of his system. If he gets sore, he is likely to sock you in the eye. The man who prefers red (it is primarily a man's color) would make a good football player, not a chess player. He doesn't have the necessary finesse, patience and ability to concentrate. The red type is likely to run roughshod over other peoples' feelings. He is one who inspires others---the Theodore Roosevelt and General Patton type, he'll go forth to battle, charge, bleed, and become a martyr. Reds are at the mercy of life. If they wish to find happiness, they should find an anchor--someone who likes blue or green.

Pink----- is a delicate color, strictly feminine. Like the red personality, the pink likes life and is interested in the world about her, but please, kind sir, a gentle world. The pink lady probably has been pampered and protected since she was a child. It's the goal of most Americans to make pink personalities of their children. There may be people who prefer pale blue---but if there are, they are likely to be the indulged offspring of the blue type parent. Pink is a dilettante, a typical Junior Leaguer who likes the country club style of doing things. She is gracious and refined and has a great deal of feminine charm, though she might become frightened by affection. It is not uncommon to find a middle-aged woman gone off on a pink bender, treating herself to pink blouses, pink lacy scarfs and peppermint ice cream (if it's pink) and buying baby pink clothes for her grand-children. She may have had a hard life and be looking for recompense. Or, she may be recalling her youth---whatever the reason she wants things soft and nice.

Brown---- the color of the earth, is preferred by the kind of person who isn't excited by other colors, or by much of anything. This person, almost invariably a man, regards flightiness or temperament as a fault. He never goes off the deep end---he is steady, dependable, methodical

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and slow moving. He is the sort of man you meet and say, "Ah, you never change a bit over the years." Trust Mr. Brown with your money, he won't try to put anything over on you. What's more---he's well trained in hanging on to money, he is apt to be stingy with his own. This type can take stern discipline and dish it out too. He makes a good marriage partner because he can stick things out.

Blue-green- stands for discrimination, for fastidiousness, in fact, so does any qualified color, tint, shade, or combination of hues. If the person who prefers blue-green were uninhibited, he would like green or blue, straight and simple. This color is frequently the choice of the self-possessed, neat and orderly career woman. "All the seductive heroines of French literature belong to this class." "The kind of woman who needs much more to be loved than to love." Blue-green can be generous without expecting rewards in return. Alac, when they want to be, they are sweet and charming in manner. Highly sensitive, or just plain fussy, describes them best. Because of their set notions about the way things ought to be, blue-greens are not easy to get along with. They would do well to marry red mates.

Green---- what would the world be without it! Green is the balance color in the spectrum, midway between the red and the blue. The green personalities are the balance wheels of society--the natural, normal upholders of convention. They are not overly ardent, but they aren't prudes, either. Give them the scandals of others to talk about---they'll do a good job of that. But people who like green will avoid getting into scrapes themselves. They populate the card clubs, support the book clubs, keep the churches going and make good school teachers. The green man or woman likes to make rules and to follow rules. He or she delights in friends or travel, sensible luxuries, without being miserly or pretentious. Because his mind is clear and full of varied attentions, he is an agreeable person. He could live with almost any personality and be content, though a red type would add a little spice in his home life.

Blue----- is the color of inner life. It is the favorite with the introverted people who pull the world into themselves instead of moving outward toward the world like the extroverted red types do. The blue character is afraid to let go--he can be very profound and intellectual. The average one in America is likely to be lazy, to become conservative and let things end there. If the blue type says he prefers dark blue, he is extremely conservative. This class of people has a remarkable ability for making up excuses or rationalizing mistakes or emotional display. Did you ever hear one of them explain his occasional wrath by saying, "It's the principal of the thing." Cautious, timid, inclined to let the other fellow talk or move first, these people have the compensating virtue of never indulging in silliness. They make good providers, executives and planners. In fact, it's the blues who usually accomplish the most in life.

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Purple--- the artists say, is the most subtle color. Artistic people prefer it for its exclusive dignity. Very few souls are born to this color. A true love for purple might indicate genius, an ability to plumb the depths of human souls and a willingness to sacrifice life, if need be, for the sake of an idea. If a merely ordinary person claims purple as his favorite, he's apt to be putting on an act. He runs to lectures on ethics, religion and aesthetics and comes away with no real understanding of what life is all about. The true purple type is charming company, and neither too bold, like some reds, nor too straight-laced like many blues. He has a strong interest in the world, likes to think up the solutions to its problems but rarely does anything practical about them. He is usually well-satisfied with himself.

Orange--- personalities, bless them, are everybody's friends. They are related to the red types but don't have the drive of their cousins. These are good natured and can get along with intellectuals or prize fighters, with sinners or saints. Nothing is so good to the orange type as a party, a good feed and a lot of back-slapping. People may say that his last friend is always his best friend. Orange people make good bachelors or spinsters, for they tend to know a little bout a lot of people and not much about one or two. Married to a blue or purple, an orange type might be happy--if he can go his own happy-go-lucky way.

Black-White-Grey-- Which of these three neutral tones do you like best? Your choice should tell you what you have done with the traits which the previous color choice indicates are innate in you. If you prefer white, you are apt to be leading the same sort of neutral life you did as a child. You are frank and innocent, willing to accept the world for what it is, or at least you'd like to be that way. If your choice is black, you probably wear two personalities, private and public. Blacks like to impress people. They cultivate sophistication--they are mysterious and deliberate, perhaps embarrassed before their own real natures. If you select grey, you have practically remade yourself. You don't pretend to know all the answers. Events or ideas have changed your viewpoint. You are more conservative than you were once, determined to manage your own future.

-- Anonymous

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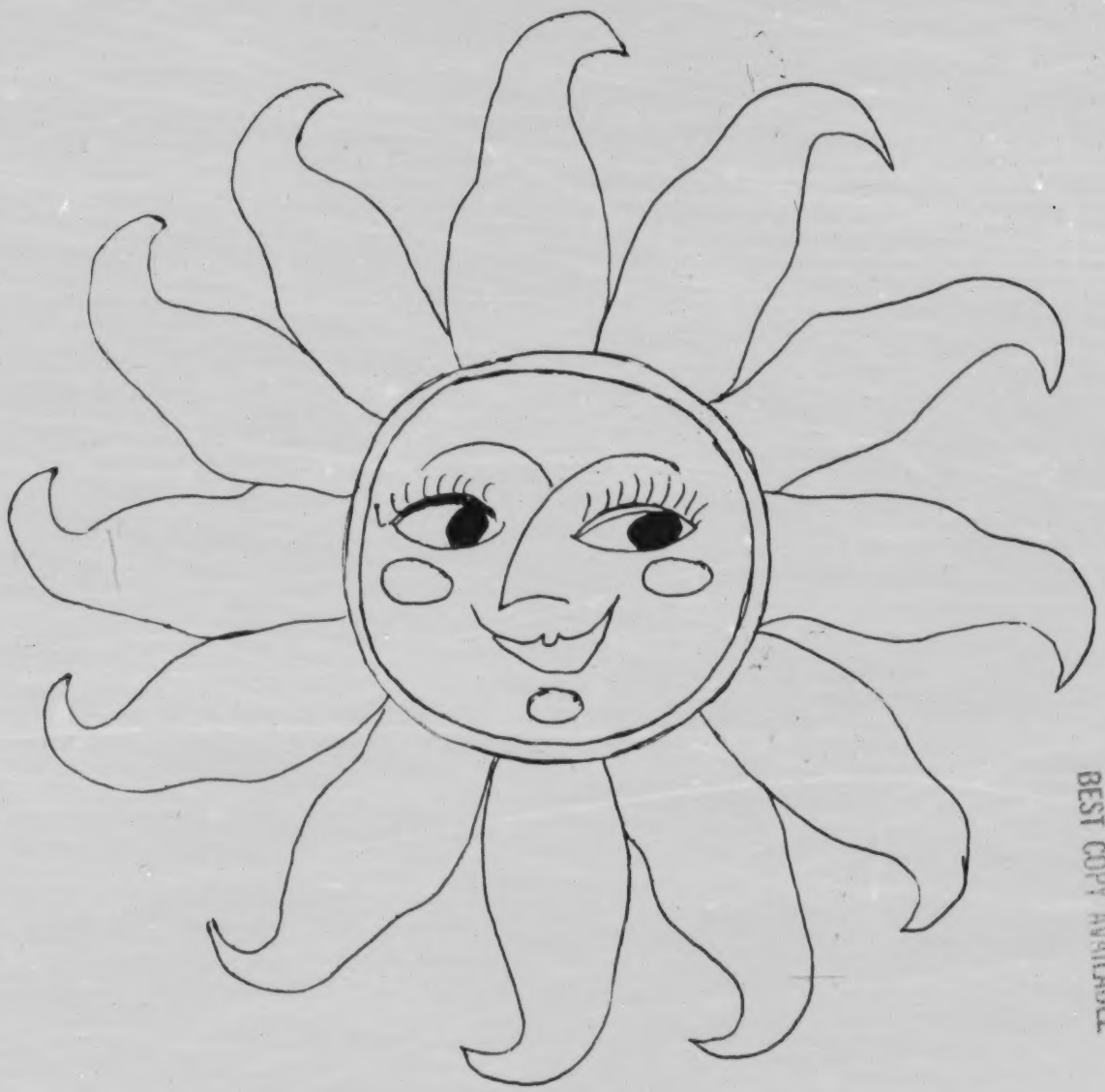
BRIGHTEN YOUR DAY WITH COLOR



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*Put colors in rays to make a color wheel.

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Topical Outline

5.0 Consumer Decisions Related to Housing

5.1 Decision-Making Process

5.2 Consumer Decisions in the Selection of Housing
- 5.21 Location of Housing
  - Services Available
  - Neighborhood
- 5.22 Types of Housing
- 5.23 Quality of Housing
- 5.24 Financing
  - Rental vs. Ownership
  - Terminology
  - Costs

5.3 Advancements Influencing Housing Decisions
- Technology and Design Theory
- Materials and Methods of Construction

5.4 Consumer Decisions Related to Furnishings and Equipment
- 5.41 Available Products and Factors of Consideration
- 5.42 Furnishings
- 5.43 Equipment

5.5 Consumer Decisions Related to Services, Care, Maintenance, Repair, Refinishing and Refurbishing
- 5.51 Use of Services
- 5.52 Care and Maintenance
- 5.53 Repairs
- 5.54 Refinishing and Refurbishing

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HV161 - How To Select Window Treatments	HV251 - How To Select Paint and Wall Coverings
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Topical Outline

5.0 Consumer Decisions Related to Housing

5.1 Decision-Making Process

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Objectives	Conceptual Statements	Beginning Level
5.0 All Levels ANALYZE and make consumer decisions relative to housing and furnishings which support the full development of members of a living unit. VALUES making consumer decisions about housing and furnishings which support the full development of members of a living unit.	5.0 As individuals and families make consumer decisions about housing and furnishings, the development of members of the living unit can be influenced.	5.0 Sequence of experiences for 5.1-5.5 is suggested to achieve this objective.
5.1 Beginning Level COMPREHENDS the principles of the decision-making process as related to housing and furnishings. IS WILLING to use the decision-making process in making housing and furnishings' choices. Intermediate and Advanced Levels IS ABLE TO APPLY the principles of the decision-making process in selecting housing and furnishings. VALUES using the principles of decision-making in selecting housing and furnishings.	5.1 When people can use their understanding of the decision-making process in making and carrying out decisions, they have a means which can be used in creating a housing environment to promote self-actualization.* See Consumer Education and Management Guide for more detailed concepts concerning the decision-making process.	5.1 Students think of decisions they are faced with daily that are related to housing as: Should I set the table? Should I clean my room or make my bed? Does the floor need cleaning? Where can I store my belongings - possessions? How can the problems of room sharing be solved? Five household items are placed on a table, e.g., - decoupage - wastebasket - bulletin board - paper flowers - vanity mirror Five students are asked to choose an item, then tell why they made the choice they did.

* asterisk indicates evaluative experiences.

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LEARNING EXPERIENCES

Intermediate Level

5.0 Sequence of experiences for 5.1-5.5 is suggested to achieve this objective.

5.1 (Teacher reviews decision-making process with students). Students are given a situation with which to try out the decision-making process.
Sample situation:
Susan wants a new item (e.g. - bedspread, chest of drawers, new paint, straw flowers) for her room. Students identify possible alternatives for obtaining this item. Students individually weigh consequences of each alternative and arrive at a solution. Solutions are discussed by class.

(Note: There may be more than one acceptable alternative.)

(Transparency in Penney's kit could be used for above decision-making situation.)

Assignment:
* Students are asked to identify a consumer housing problem or decision with which they might be faced. Use the decision-making process in attempting to solve the problem.

Advanced Level

5.0 Sequence of experiences for 5.1-5.5 is suggested to achieve this objective.

5.1 Students compare two case histories of young couples facing housing decisions such as selecting an apartment. One couple uses the decision-making process in comparing several available apartments while the other simply rents an apartment on the recommendation of a friend. Case studies should include information about the couples, places of employment, their financial status, hobbies, etc. Students consider possible results of each method of deciding.

* Students write a statement listing value of using decision-making process.

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Objectives	Conceptual Statements	Beginning Level
	5.1 (continued) -- The steps of the decision-making process are commonly listed in sequential order, but as individuals and groups make decisions they move back and forth among them. - analyzing problems and identifying desired goals - seeking alternate choices - examining the consequences of choices - making the choice - carrying out the decision - evaluating and modifying the decision	5.1 (continued) Discussion includes, How do we solve a problem? Flip a coin, or give it some thought? * Each student evaluates his reason for the choice which he made. Teacher leads discussion of decision-making process if students are not familiar with it. Discussion may be further developed by use of J. C. Penney's kit, "Decision Making for Consumers." (See teaching aids at the end of the section for address.) * Student thinks of a personal daily decision and, using the steps in the decision-making process, determines how he would reach the decision in sequential order.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

Topical Outline

5.2 Consumer Decisions in Housing Selection

5.21 Location of Housing

- Services Available
- Neighborhood

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Objectives	Conceptual Statements	Beginning Level
5.2 Intermediate and Advanced Levels ANALYZE various factors when making decisions relative to housing selection. VALUES considering various factors when making decisions relative to housing selection.	5.2 When making decisions concerning housing selection, consider the factors of location, form, level of quality and financing, a choice that meets individual and family needs may be achieved.	5.2 Learning experiences for this conceptual statement are not appropriate at this level.
	5.21 Consideration should be given to: - services available -- utilities, police protection, sewers, post office, etc. - proximity to work, schools, shopping, medical facilities, churches, public transportation - type of area - urban, suburban, rural - neighborhood--zoning, ages of residents, pet regulations, appearance, etc.	5.21 Learning experiences for this conceptual statement are not appropriate at this level.

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LEARNING EXPERIENCES

Intermediate Level

5.2 Students take pre-test to determine previous knowledge in the areas of decisions concerning housing selection.

5.21 Make a transparency which shows some factors to be considered for housing location. (For illustration, refer to Homes With Character by Craig, pg. 117. Transparency could depict:

- . water faucet, light bulb, etc.
- . bus (public transportation)
- . police car, fire truck
- . shopping cart
- . school
- . doctor
- . sign — For Sale / Factory Site (zoning)
- . golf club and ball (recreation)
- . etc.

(Have students add to these.)

* Think of specific family situations we have discussed which would dictate housing location.

Advanced Level

5.2 Students take a pre-test to determine previous knowledge in the areas of decision-making concerning housing selection.

5.21 Students respond verbally in class discussion to question:

Where in this community, given your choice, would you like to live?

Teacher, using a map of mock community, compares various areas in terms of services available, proximity to work, facilities, etc., types of area, neighborhood.

Students in remote areas or reservations, consider factors such as availability of water, electricity, natural or butane gas, sewage disposal, nearness to main roads, other facilities, neighbors.

OR

* "Park and Shop Game" may be used as a basis for developing a mock community and assessing desirability of location.

Topical Outline

5.22 Types of Housing

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Objectives	Conceptual Statements	Beginning Level
5.22 Intermediate Level COMPREHENDS the available type of housing choices as related to space, shape and size. IS AWARE of available types of housing choices as related to space, shape and size. Advanced Level ANALYZES the organization of space, shape and size in various types of housing choices. IS WILLING to examine the organization of space, shape, and size in various types of housing choices.	5.22 Available choices in housing exist in several types varying with organization of space, shape, and size.	5.22 Learning experiences are not appropriate at this level for this conceptual statement.

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LEARNING EXPERIENCES

Intermediate Level

5.22 Students take a field trip or individually visit a variety of housing units--

- townhouses
- mobilehomes
- government housing
- model homes
- retirement homes
- apartments
- duplex

Students, using a checklist, compare types of housing according to the following:

- number and size of rooms
- amount of overall space
- shape of building
- amount of outdoor space
- arrangement of rooms

Students compare findings

OR

Students identify which of the following types of housing would best meet the needs of various individuals or families in terms of space, shape and size.

E.g., A young couple expecting their first child:

- a large third floor studio apartment, located near pool area
- mobile home, 35' x 8', one bedroom, located in a park with a children's playground
- a single level, 2 bedroom duplex with a back yard

Advanced Level

5.22 Students review or develop case history of a young couple, a single working girl, a couple with teenagers, a retired couple. Students select type(s) of housing that would best meet their needs as related to size, shape and organization of space.

Students look for various floor plans and rooms which use space, shape and size in various ways. Students examine the rooms carefully and after looking at many, begin to analyze the organization to determine what would best meet needs and why.

Students examine the above floor plans and rooms and then make changes in either the actual floor plans or ideas about treatment of space, shape and size of the room.

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Objectives	Conceptual Statements	Beginning Level
	5.23 The types of design, the variations in material, and the methods of construction reflect the quality of housing. - The quality of housing standards are influenced by economics status, individual and family needs, values, attitudes, housing knowledge, and past experience.	5.23 Learning experiences are not appropriate for this conceptual statement at this level.

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LEARNING EXPERIENCES

Intermediate Level

5.23 Students take a field trip to visit both existing and newly-built housing and examine the quality of materials, methods of construction, and types of design used.

OR

Students examine housing materials of differing quality as:
- lumber - insulation - siding - concrete blocks
- roofing materials

Students note reasons for differences in quality, and consider reasons for selecting one item over another.

Students exchange ideas on question:
What influences the level of quality people select for housing?

Use cartoon from Housing and Home Management, Lewis, Burns and Segner, p. 74 to stimulate discussion of values in housing. (Good reference for values.) Clip pictures of modern houses; old, well-kept houses; old, run-down houses; rural houses; mobile homes; commune-type shelters; etc. Discuss:
- What do you think is important about housing to people living here?
- What might the attitude of these people be toward housing?
- How is the economic status reflected in the housing? Does housing necessarily reflect total economic status?

Advanced Level

5.23 Invite an architect to class to discuss types of design as related to quality in housing. Students cut out pictures depicting various kinds of housing design. As a group discuss which designs would be best quality; which would be realistic for middle and lower income people.

Teacher presents picture demonstration depicting various methods of construction - e.g., modular units, prefab, variations in mobile home construction, model home construction.

OR

Invite construction project superintendent to tell how to identify quality in housing.

Students summarize types of design and methods of construction which are most suitable for their life style.

Students in individual reports, teacher, local builder or architect share information with rest of class about the specifics of building which affect the particular area of the state.
E.g., Types of Design - flat roofs buckle under snow in northern Arizona.
Variations in Material - termites eat frame houses in central Arizona.
Methods of Construction - construction can best be undertaken successfully in the warm, summer months in the northern section of Arizona.

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Objectives	Conceptual Statements	Beginning Level

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

5.23 (continued)
Students analyze influence of income, family needs, values, etc., on the quality of housing materials chosen.

- In what situations would the highest quality not be chosen?
  - . Young couples
  - . Certain occupations with high mobility
  - . People who value things other than housing--travel, automobiles, animals, children, recreation, business investments
  - . Insufficient funds

Topical Outline

5.24 Financing

- Rental vs. Ownership
- Terminology

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Objectives	Conceptual Statements	Beginning Level
5.24 All Levels COMPREHENDS the influence of decisions on managing cost in selection of housing. IS AWARE that the choice for managing cost influence housing decisions. IS ABLE to distinguish between advantages of renting and buying. IS AWARE of the legal and financial processes pertaining to acquisition of housing.	5.24 When individuals and/or families examine available choices for managing the cost of housing in terms of needs and resources of the living unit, a more satisfying decision may be reached. - initial cost - operating and/or maintenance costs - replacement costs - financing costs - The advantages and disadvantages of buying an existing living unit (old or new), buying land and having a house built, or of renting, are related to the needs, wants and resources of the specific individual or family. - A knowledge of legal terminology is necessary to understand and carry out successful housing transactions. - Housing costs include those associated with not only the dwelling but also utilities, insurance, and taxes.	5.24 Learning experiences are not appropriate for the conceptual statement at this level.

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LEARNING EXPERIENCES

Intermediate Level

5.24 Divide studies into groups. Students conduct survey on cost of various types of dwellings as:
- mobile homes
- rented apartments
- rented houses
- houses for sale
- condominiums
- cooperatives
- public housing

In class, students compare findings in relation to cost, size, needs, appearance, etc.

Advanced Level

5.24 Refer to chart in Homes with Character, Craig, 3rd Edition, p. 93. Compare amount of income to be budgeted for housing. Use information to figure how much a family/individual can afford to spend on housing with different incomes, assuming that 20% of annual income can be used for that purpose.

Have students individually inquire about local housing costs for various forms of housing.

- Discuss the advantages and disadvantages of renting vs. owning a house:
  - money factor
  - mobility/permanence
  - equity in ownership
  - rootedness
  - tax deductions
  - psychological values

  Resource: Homes with Character, p. 93.

- A bulletin board is prepared using terms printed on 3" x 5" cards and definitions on other 3" x 5" cards. Connect corresponding cards with colored yarn using one color for terms relating to renting and another color to indicate purchasing terms. Arrange on board in a tangled confusion. Terms that could be used:

. deed	. lien
. title	. mortgage
. lease	. rental deposit
. utilities	. equity
. tenant	. real estate
. landlord	. joint tenancy

  Title of board could be, "Are You Caught in the Tangle?"

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Objectives	Conceptual Statements	Beginning Level
	5.24 (continued) - Factors involved in the total cost of home ownership depend on: . principle . interest rate . taxes . insurance . total monthly payment . closing costs . depreciation . maintenance - When one finances home ownership, there are various types of mortgage loan agencies available: . loan agencies . savings and loan associations . building and loan companies . commercial banks . mortgage brokers . insurance companies . private investors . insuring agencies . FHA . VA	

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

5.24 (continued)

- Students hear speaker describe total cost of home ownership, emphasizing interest, taxes, insurance, closing costs, maintenance, depreciation as well as down payment and monthly payments.

- Secure booklets from F.H.A., bank or other resource. Students read booklets for information on cost of home ownership.

- As a class, students compare two homes in cost of ownership as:
  mobile home or small tract house
  large, older home or small new home

- Students investigate the various types of housing loans available in their community through talking with F.H.A. representative, bank loan department, real estate broker.

* Students summarize information gathered (in chart, bulletin board, graphs) and compare criteria for qualifying, percentage of loan insured, interest rate, number of years, down payment.

* Students compare the total cost of a home using three variables:
  down payments
  interest rate
  numbers of years of mortgage

Topical Outline

5.3 Advancements Influencing Housing Decisions
- Technology and Design Theory
- Materials and Methods of Construction

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Objectives	Conceptual Statements	Beginning Level
5.3 All Levels COMPREHENDS that advancements in technology, design theory, materials and methods of construction influence housing decisions. IS WILLING to consider the influence of advancements in technology, design theory, materials, and methods of construction in housing decisions.	5.3 Advancements influencing housing decisions are changes in technology, design theory, materials and methods of construction.	5.3 Students seek pictures of homes popular 30-40-50 years ago. Interview grandparents, parents, others to find out changes in: - floor plans - elevation - exterior walls - window frames - floors - plumbing - amount of storage - indoor-outdoor areas - ceilings - (others) Students decide why these changes have occurred. OR Take a walking trip through neighborhood to note differences in appearance of houses. Visit a home under construction. Note various kinds of materials being used. How do they differ from those used many years ago? What possible materials may be needed and used in the year 2,000?

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LEARNING EXPERIENCES

Intermediate Level

5.3 Students discuss changes in interior furnishings which have occurred in the past 20-30 years. The students find pictures illustrating changes in:
- construction
- overall shape and size
- fabric
- decorative design
- structural components

Students, in groups, make predictions or design furnishings that may be available in the next 20-30 years. Drawings may be made illustrating some of the predictions.

Advanced Level

5.3 To determine advancement in design theory, students discuss what architects have influenced architecture in Arizona.
- Paelo Solari
- Frank Lloyd Wright
- Others

Using magazines and books, show samples of advanced housing designs. Question ways they differ from living units now.

Show pictures of prefabricated walls, windows and doors. Decide flexibility of each. How does it lower building costs? Show added uses not possible with standard building practices.

Local builder is invited,
OR
Students visit building site of dwellings,
OR
Students research information to determine how methods of construction have advanced.

Topical Outline

5.4 Consumer Decisions Related to Furnishings and Equipment
5.41 Available Products and Factors of Consideration

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Objectives	Conceptual Statements	Beginning Level
5.4 All Levels ANALYZES the alternatives concerning furnishings and equipment decisions in terms of the individual and/or family life situation. VALUES well-based decisions relative to interior backgrounds, furnishings and equipment.	5.4 A more satisfactory decision concerning furnishings and equipment may be reached when individual or family composition, values, goals, standards, patterns of living, and resources are considered.	
5.41 Beginning Level COMPREHENDS the factors involved in selecting furnishings and equipment. Intermediate and Advanced Levels ANALYZES the factors involved in selecting furnishings and equipment.	5.41 When a consumer has information about available products and is able to apply knowledge about factors which should be considered at the time of purchase, he may receive greater satisfaction in the selection, use and care of furnishings and equipment. Factors to be considered in selecting furnishings and equipment are: - cost - method of payment - durability - design principles - quality - care and maintenance - personal satisfaction - installation - need - space - do-it-yourself skills	5.41 Teacher chooses item such as - throw pillow, bedspread, curtain or drape, bulletin board, bookcase, wastebasket - and either shows pictures or samples of actual item in varying prices, types, quality. Students compare items considering factors listed in conceptual statement. Students observe demonstrations explaining how to make items such as wastebaskets, bulletin boards, throw pillows, macrame wall hangings, framing pictures, etc. Students select and make an item.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

5.41 Students visit a furniture store, linen or drapery department where a store consultant describes and compares at least two items using factors to be considered in selecting furnishings and equipment listed in conceptual statements.

OR

Teacher brings in two kinds of sheets, bath towels, etc., and compares them using the factors listed in conceptual statements.

Students individually choose a small furnishings or equipment item and compare two items for factors listed in conceptual statements.

* Students write a summary statement telling why they made their choice. (Mail order catalogs, Consumer Reports, newspaper or magazines may be used as source of information if stores are not available.)

5.41 Teacher reviews the factors to be considered in the selection of furnishings and equipment.

Students hear case of Tom and Linda, college students, who need a refrigerator. Their alternatives are: mother's old refrigerator which she recently replaced, a small utility refrigerator from a discount store, a large upright freezer-refrigerator deluxe model from department store.

* Students analyze the advantages and disadvantages of each one.

Students visit a furniture or department store to compare various box springs and mattresses. Teacher or store consultant compares the items. Students are given a case study to analyze to determine which bedding would be best according to information in concept.

OR

Students analyze as above after comparing bedding from sources such as mail order catalogs, consumer reports, newspapers, or magazines.

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Objectives	Conceptual Statements	Beginning Level
5.42 All Levels COMPREHENDS the importance of using consumer information in the purchase of furnishings. VALUES using consumer information in selecting furnishings.	5.42 The factors listed in 5.41 need to be considered when making decisions about the selection, use and care of furnishings. In order that the consumer receive maximum satisfaction in furnishing and equipping his home, he will need to consider the following as parts of the total picture: - floor covering - wall and ceiling coverings - window treatment - lighting - furniture - equipment and appliances - accessories - table appointments - storage - linens	5.42 (Learning experiences which follow are examples of the type which may be used for each particular item covered in the furnishings area.) Floor covering Students discuss kinds of flooring used in homes and schools: - Where is it used? - How is it cleaned? - What do you like about it? - What do you not like about it? - How many different kinds are there? Test stain and soil removal on various types of carpeting and different fiber composition. Determine where each type would provide best service. Furniture Arrange for a field trip perhaps with the industrial education class to a furniture manufacturing plant. Students collect furniture advertisements found in newspapers or magazines. The class identifies information that is of value to the consumer, which has emotional appeal and which are general claims made by the advertiser. Visit the industrial education department to see woodworking in process.

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LEARNING EXPERIENCES

Intermediate Level

5.42 (Learning experiences which follow are examples of the type which may be used for each particular item covered in the furnishings area.)

Floor covering

See beginning level on discussion of kinds of flooring used in homes and schools.

Students are asked to interview people who have carpeting of various types in various places.
E.g., kitchens, bathrooms, indoor-outdoor carpeting, short shag, long shag, i.e.
Find out how satisfied they are with their selections. Report back to the class.

Individually or as a class students visit carpet store and have the salesman explain and discuss cost, installation, wear and care, i.e., or ask a representative to come talk to the class.

Text stain and soil removal on various types of carpeting and different fiber composition. Determine where each type would provide best service.

Using flooring samples and scraps, students are given case problems to solve involving flooring, e.g., the floor in the family room has beige tile but Mark and Beth want a soft floor covering because the room will also serve as a play room for the children. What size, texture, quality, color and/or pattern should they consider? Why?

Furniture

Brainstorm possibilities of multi-purpose furniture.

Advanced Level

5.42 (Learning experiences which follow are examples of the type which may be used for each particular item covered in the furnishings area.)

Floor covering

Students, as an individual project, investigate several types of floor coverings such as tile, hardwood, carpet and linoleum, and analyze each in relation to location in which it is to be used, cost, installation, and other factors.

Students select the type of carpeting that would be most appropriate for various situations presented by the teacher.

Furniture

Divide class into groups and have them draw case situations from a box. One situation could be:

a. Bev and Kim are attending beauty culture school and have an efficiency apartment. It is sparsely furnished, and they need to buy a chair. They have very little extra money, but they feel that they can afford up to $15.00. Help them to select a good choice. (Provide catalogs to use, students may decide to suggest fixing an old one from Goodwill.)

b. Andy and Marilyn were married while Andy was still in the service, and he has another year before he gets out. After service he plans to go to college to finish the last two years. They have a furnished apartment, but storage space is lacking. They need space to store some extra china, books, writing materials, etc. What kind of furnishings do you think would solve their problem? Tell why you think your choice would be a good buy.

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Objectives	Conceptual Statements	Beginning Level

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LEARNING EXPERIENCES

Intermediate Level

5.42 (continued)

Furniture

Field trip - arrange with a furniture store representative to show students what to look for when bargain-hunting; difference between expensive and inexpensive furniture, and how to shop for better buys.

Show transparency on the basic furniture joints. Discuss the durability features. (Shop teacher may have samples of joints used in making furniture.)

Advanced Level

5.42 (continued)

Furniture

c. Don and Cindy have moved into a new house. They have no furniture of their own but have $800 budgeted to spend right away. The kitchen has a built-in range, and Don's folks bought a new refrigerator. Both Don and Cindy work and have figured out that they can budget $100 a month for the next six months. How much can they do in furnishing their house without going into debt? Identify the values of Don and Cindy as reflected by your selections.

(The last case could be used by several groups, as they will make decisions based on different values.)

Assemble pictures of restyled, refinished and improvised furniture, and discuss some advantages and disadvantages of "doing it yourself."

Visit the home show or mobile home show or appliance shows which occur occasionally.

Students gain knowledge about upholstering furniture and the techniques employed in the creation of long-lasting quality furniture by visiting an upholstery shop at school or business.

OR

Upholstery teacher or individual in the community who re-upholsters furniture is invited to demonstrate to the class.

Students may select a project at this point which involves either refinishing or upholstering. Students might visit second-hand or junk stores to select any small item for use in the project.

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Objectives	Conceptual Statements	Beginning Level
	5.43 The factors listed in 5.41 need to be considered when making decisions about the selection, use and care of equipment. - Large appliances - Small appliances - Small kitchen equipment	5.43 Equipment - Large Appliances Teacher evaluates the good points and the bad features of a range or refrigerator in the home economics department. Students inspect another appliance in department, home or store and note the good and bad points it has from the consumer's point of view. Students consider what improvements they would make so that the appliance would be functional and easy to clean as well as attractive. Equipment - Small Kitchen Equipment Students observe teacher demonstration of various small kitchen equipment such as can openers, hand mixers, blenders, electric fry pans, pressure pans, i.e., to discuss variations and expectations in performance, convenience, price, guarantees, i.e. * Students using the factors to be considered in selecting furnishings and equipment analyze three groups of objects: Small accessories Floor coverings Furniture Students determine which a case study family might purchase and why.

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LEARNING EXPERIENCES

Intermediate Level

5.43 Equipment - Small Appliances

Students consider from the ecological point of view reasons for limiting use of small appliances as electric knives, can openers, tooth-brushes, etc.

OR

Students observe a demonstration on two successive days by vacuum cleaner salesmen from differing companies. Students compare the two cleaners in terms of factors listed in 5.41. Students, inidvidually, analyze which, if any, they would select and why.

OR

Students observe demonstration of two or more types and qualities of irons and ironing boards. Students compare the items in terms of factors listed in 5.41.

* Students each write a series of articles for the newspaper, or a radio program on being a family consumer of furnishings and equipment. Each is to bring out the important factors to be considered with each area of furnishings and equipment. The best papers may be submitted to local media.

Advanced Level

5.43 Equipment - Large Appliances

Representative from gas or electric utility company demonstrates various large and small appliances noting variations in cost, use and care.

OR

Students visit home appliance center and observe demonstration similar to one above.

Students analyze equipment considering questions as:
- Is a self-cleaning oven worth the price?
- Why have an ice-maker?
- Is a frost-free refrigerator freezer worth the extra cost?
- What are the advantages and disadvantages of a Corning cook-top?
- What are the advantages of a trash compactor?
- What are some advantages of a wood stove?

(Teacher refers to case histories listed in 5.42 and adapt for selecting an appliance.)

Students decide what would be wisest purchase in each case.

* Students divide into small groups and develop materials, a demonstration and/or ideas for presenting home furnishings consumer knowledge at shopping centers, local stores or women's clubs. Each group then is to find a suitable place for their presentations. Each presentation is made in class before actual usage.

Topical Outline

5.5 Consumer Decisions Related to Services, Care, Maintenance, Repair, Refinishing and Refurbishing

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Objectives	Conceptual Statements	Beginning Level
5.5 Beginning Level COMPREHENDS decisions in the area of services, care, maintenance, repairs, refinishing and refurbishing of possessions in terms of the individual and family life situation. VALUES well-based decisions in the area of services, care, maintenance, repairs, refinishing and refurbishing of possessions in terms of the individual and family life situation. Intermediate and Advanced Levels ANALYZES decisions in the area of services, care, maintenance, repairs, refinishing and refurbishing of possessions in terms of the individual and the family life situation.	5.5 Decisions related to services, care, maintenance, repairs, refinishing and refurbishing of possessions are affected by the activities, resources, needs and values of individuals and families, and in turn these decisions affect individual and family well-being.	5.5 Teacher displays pictures of various sections of living units as: - a man's study - a lady's bedroom - a family room used by small children - a kitchen-dining area for a family with teenagers Students in groups decide the age, sex and number of persons using each room. Students discuss questions as: - What are the differences in the care of the furnishings in each room? - What would be the differences in the amount of maintenance of the floors in each room? - Which furnishings would be most easily damaged? - Which could be repaired? - Could the people in the living unit do the repairs? - Which items could be refinished? - Would anyone in this living unit do the refinishing?

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LEARNING EXPERIENCES

Intermediate Level	Advanced Level
5.5 Students are presented the following alternatives for decision-making: - Hire someone to paint or wallpaper a room or do the work for themselves. - How to care for an upholstered chair with wood trim? - What to do about a TV set that will not work? - What to do about a chest left you by your grandmother which has a scarred finish? Students are then asked to select and write down the decision they would make depending on their individual activities, resources, needs and values. Students exchange ideas on reasons for various decisions and class and teacher identify the influence of activities, resources, needs and values in each decision.	5.5 Through pictures, verbal examples, cartoons or role-playing, teacher presents examples of varying ways of obtaining and handling possessions as: - woman consulting interior designer, another leafing through catalogs and magazines (services) - a woman dusting a cluttered home, someone with feet on the furniture (care and maintenance) - a broken chair, someone fixing an appliance (repairs) - "before and after" rooms or houses, someone painting a room (refinish and refurbish) Students decide the activities, needs, resources and values in each case. Students consider how each decision affects each individual and family.

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Objectives	Conceptual Statements	Beginning Level
	5.51 When a consumer has knowledge of and is able to use the various types of services from professionals and craftsmen, he may receive greater satisfaction in making decisions concerning the living unit. Examples: - architect - interior designer - tile setters - masons - carpenters - lighting advisor - wall paper hangers	5.51 Learning experiences for this conceptual statement are not appropriate at this level.

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LEARNING EXPERIENCES

Intermediate Level	Advanced Level
5.51 Students invite to class a professional and a craftsman to describe the services which they perform. OR Students visit a professional and a craftsman while at work and observe the services which they perform. OR Students visit the site of a building under construction to observe craftsmen performing services which are needed for homes. Students decide in what situations it would be feasible to employ professionals or craftsmen. Students cite examples of cases in which it would be more economical to employ professionals or craftsmen.	5.51 Students consider the following situation: A family is trying to decide whether to do-it-yourself or hire professional services. The family considers the expenditues of resources--time, money, skills--and concludes they are in need of professional help. - Class committee investigates the yellow pages of the phone book (a large city directory plus local small town directory) to locate services available. - Committee seeks out local professionals available and interviews them. Report to class on services, costs, what to expect, i.e.

Topical Outline
5.52 Care and Maintenance
5.53 Repairs

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Objectives	Conceptual Statements	Beginning Level
	5.52 When there is care and maintenance of possessions, their length of life, usefulness, and attractiveness are prolonged.	5.52 Students think of reasons for learning appropriate methods of cleaning as: - keep soil at a minimum - understand kind of soil - select appropriate cleaning agent for soil and surface - select appropriate equipment - develop methods that guarantee best results with least expenditure of time and effort. Students receive information about routine cleaning (floors, windows, furniture) and the equipment and products which could be utilized for such (vacuum, broom, dust cloth, cleansing powders and liquids, soap and water.) Students clean a room with various products and equipment comparing usefulness of each in terms of type of soil to be removed such as: fingerprints, stains, dust, i.e. OR Students clean a room at home and report results of using various products and methods.
	5.53 When a possession is in need of repairs, information is needed concerning the economy and feasibility of repairs, methods of repairing, source of materials and labor.	5.53 Provide item of furniture in need of repairs and refinishing. Discuss reasons why article needs repairs: scratches, chipped edge, burned spots, peeled paint, etc. Find ways of restoring furniture. Girls restore as class project. (Girls may bring own for this project, or article may be purchased by teacher at a second-hand shop.)

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LEARNING EXPERIENCES

Intermediate Level	Advanced Level
5.52 Students receive information about seasonal type cleaning (closets, storage space, vents, woodwork, range, refrigerator) and the equipment and products which could be utilized for such. Students clean a range, refrigerator, closets or woodwork in the home economics department using various products. Students analyze which product was faster, more economical, cleaned more efficiently, and was more pleasant to use. OR Students conduct some type of seasonal cleaning at home using various products and then analyze the method with the final appearance using the criteria listed above. * The Martin family purchased a new refrigerator. Jan quickly connects it. She then very carefully washes the refrigerator, scrubbing it with hot soapy water, a brillo pad and abrasive to remove the sticky tape. The door is left open for the refrigerator to dry. The Dixons also bought a new refrigerator. Nancy carefully removed all packing and washed the interior and exterior with warm water, baking soda and a soft cloth. She dries the refrigerator, plugs it in and sets the temperature. Which refrigerator will need refinishing first? Why?	5.52 Students receive information about special type of cleaning such as shampooing the carpet, cleaning the draperies, washing or painting ceilings and walls, stripping wax off floor and rewaxing, cleaning bed furnishings and other linens. Students observe a demonstration of a carpet being shampooed or of draperies being cleaned at a commercial cleaners. OR Teacher demonstrates the cleaning of bed linens or other kinds of linens. Students conduct a special type of cleaning either at school or at home using various techniques and methods (e.g. use various kinds of carpet cleaners). * Students analyze when it is feasible and economically sound to conduct the special cleaning oneself and when it should be delegated to an outside source.
5.53 Students work in industrial education class to learn methods of repairing electrical appliances.	5.53 Students read or hear a speaker about repairing a house which is no longer in acceptable condition. Is this repairing feasible and economical?

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Objectives	Conceptual Statements	Beginning Level

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
5.53 (continued) Students working in pairs repair an electrical appliance (from home, home economics department, or teachers). Students learn methods of simple repairs on furniture. Students call various sources of repair labor in the community (use yellow pages) to determine varying prices for particular jobs. Students discuss as a class the variations in methods of repairs, where they can obtain the materials and labor and the amount of money involved in either repairing an item oneself or having it done, or purchasing a new item.	5.53 (continued) Students examine a house, either on a field trip or by looking at pictures and determine what repairs are needed, the methods of repairing, where they would obtain materials, and who would perform the labor.

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Objectives	Conceptual Statements	Beginning Level
	5.54 Refinishing and refurbishing are factors to be considered when making an initial purchase of an item as well as when the item is in need of repairs or is no longer suitable for the living unit.	5.54 Students in a class refinish the repaired items of furniture (5.53). Teacher discusses and may show pictures of new item similar to the ones repaired and refinished. She also shares the price of the new item as well as the price for repairing and refinishing materials with the class. Students determine which item was less expensive, which item demanded the individual reserve time for labor, which item would meet certain psychological or emotional needs for the individual. * Students are given a written quiz to determine if each comprehends the reasons for and means by which care, maintenance, and repair of furnishings is performed.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
5.54 Students visit a second-hand store to observe various pieces of furniture and their prices. Information is provided concerning the type and amount of work to refinish the furniture. Students individually refinish a piece of furniture. (Furniture is provided by individual students, teachers or individuals who supply money for materials, or furniture in the department may be used.) * Students are given a number of situations to analyze and determine what service, care, maintenance, repair, or refinishing is needed. These decisions are to be based upon the family's economic situation and their values.	5.54 Students examine a room which is no longer acceptable to the living unit without refurbishing, e.g., Picture of room, room in home economics department, faculty or student lounge, room in someone's home. Teacher leads discussion about possibilities for refurbishing taking into consideration amount of money involved, amount of outside and self labor. Students determine what needs to be accomplished, and then individually each one writes the steps and methods they would take to accomplish this. (Samples of colors, fabrics, furnishings included) * Students actually refurbish the room accordingly. OR Students refurbish a room in their home (written permission from parents).

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Topical Outline

6.0 Exploration of Professional and Supportive Careers Related to Housing and Furnishings

6.1 The World of Work
- 6.11 Employment Trends
- 6.12 Changing Roles of Men and Women
  - Dual Role
  - New Roles

6.2 The Housing and Furnishings Industries
- 6.21 History
- 6.22 Growth and Current Trends
- 6.23 Necessary Abilities and Attitudes
  - General
  - Specific

6.3 Professional and Supportive Careers
- 6.31 Supportive Careers
- 6.32 Professional Careers
- 6.33 Related Careers
  - Fine Arts Related
  - Housekeeping Related
  - Real Estate Related

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Topical Outline

6.0 Exploration of Professional and Supportive Careers Related to Housing and Furnishings

6.1 The World of Work

6.11 Employment Trends

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Objectives	Conceptual Statements	Beginning Level
6.0 All Levels ANALYZE the career opportunities related to housing and furnishings.	6.0 When an individual has interests and abilities related to housing and furnishings, he may consider many career opportunities.	6.0 Sequence of experiences for 6.1-6.4 is suggested to achieve this objective.
6.1 Beginning and Intermediate Levels COMPREHEND the employment trends associated with the housing and furnishings industries. Advanced Level ANALYZE the employment trends associated with the housing and furnishings industries.	6.1 When the individual has investigated the current and future employment trends associated with the housing and furnishings industry, he is more likely to have the necessary knowledge for decisions concerning career choices.	
6.11 Intermediate Level COMPREHENDS the current trends for the housing and furnishings industries. Advanced Level ANALYZE the current trends for the housing and furnishings industries.	6.11 Current trends for employment in the housing and furnishings industries tend to be increasing more rapidly in the entry and skilled positions.	6.11 (Not applicable for this level.)

* asterisk indicates evaluative experiences.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

6.11 Speaker from trade or professional association concerned with housing or furnishings presents information on current and future trends in areas of the industries such as:

- crafts
- sales
- design
- entry level non-skilled
- production

Students as a group develop a large graph indicating the employment trends of the areas discussed by the speaker. Additional information may be gained through the State Employment Records and Trade and Professional Association publications.

OR

Students investigate the possibilities in their localities through their own group survey and interviews.

Students discuss employment possibilities. Sample questions include:

What are the opportunities for jobs in the industry?

Is there a difference in opportunities from small towns to urban areas?

6.11 Students individually investigate an area of the housing or home furnishings industries as to the history of employment, current trends, and possible future trends. A cause-and-effect chart showing reasons for change may be developed.

OR

A speaker from the banking or loan business discusses with the class the housing and furnishings business and financial trends.

Students discuss the implications for careers related to housing and furnishings field.

Possible discussion questions may include:

What are the implications for this industry in times of recession or inflation?

What is the relationship of the above implications to career opportunities in this industry?

Topical Outline

6.12 Changing Roles of Men and Women
- Dual Roles
- New Roles

6.2 The Housing and Home Furnishings Industries

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Objectives	Conceptual Statements	Beginning Level
6.12 Beginning Level COMPREHENDS the similarities and differences in changing roles of men and women today. Advanced Level ANALYZES the changes in men and women's roles for various patterns associated with self-fulfilled individuals.	6.12 When roles of men and women today are examined, many similarities and changes from the past may be identified. - More masculine participation in housework - More feminine participation in world of work - Dual roles in care of children, other responsibilities. When facts concerning roles are analyzed fully by both men and women, an acceptable pattern of roles may be more easily developed at a pertinent time.	6.12 Students develop a skit portraying the differences in roles played by men and women today as compared to the past. Points to be brought out might include: - Many women working outside homes today - Men assuming new household roles - Labor-saving household equipment playing new role - Women working to add additional income, to gain personal satisfaction During skit students are asked to write the changes in roles they can identify. After skit students discuss changes.
6.2 Intermediate and Advanced Levels COMPREHEND the components of the housing and home furnishings industry.	6.2 When an individual comprehends the history and trends of the industry and the attitudes and abilities for employment in the industry, he is better able to make decisions concerning careers in these fields.	6.2 (Not appropriate for beginning level.)

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level

6.12 Panel of women from young married through grandmothers who are working present information concerning the following:
 	
- Reasons for working
- Satisfactions gained
- Problems involved
  - Positions open to women
  - Does it pay to work outside the home?
- Qualifications necessary
- Changing roles of husband and wife
 	
Students read articles from current magazines on working women and summarize.
 	
Class discusses changes in roles and how their lives will be affected.
	6.12 (See Intermediate Level).

6.2 A series of learning experiences (6.21-6.23) are designed to develop this particular concept.	6.2 (See note on Intermediate Level.)

Topical Outline

6.21 History

6.22 Growth and Current Trends

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Objectives	Conceptual Statements	Beginning Level
6.21 Intermediate Level COMPREHENDS the relationship of early history of the industry to the present housing and furnishings industries. Advanced Level ANALYZES the relationship of early history of the industry to the present housing and furnishings industries.	6.21 The history of the housing industry dates from early centuries with the work of carpenters, craftsmen, artists and architects. When the history of housing in the United States is examined, the individual may develop a more thorough understanding of the industry itself. - Housing Style Cycles - Interior Trends - Technological Advancements	6.21 (Not appropriate for beginning level.)
6.22 All Levels COMPREHENDS the economic trends of the industry.	6.22 When housing and related industries in the United States are examined, a continual growth pattern is evident. Recessions and inflationary trends in the economy influence the growth of the industry proportionately. Growth trends have been accelerated in the United States since 1945 as home ownership has increased.	

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LEARNING EXPERIENCES

Intermediate Level

6.21 Students view various architectural styles and achievements from early centuries and discuss how these were accomplished.

Discussion questions might include:

- What type of work and jobs were involved in the development of the architectural accomplishments?

- What related positions may have developed as a result of certain housing styles?

Students find illustrations of various styles of housing which has evolved in the United States. Illustrations of interior trends may also be found. From these students define what skills and crafts and specialists were needed to accomplish the effects.

6.22 Students and teacher develop a bulletin board depicting the trends in the housing and furnishings industries in volume. Along with this, appropriate designs of housing for various periods may be added.

Advanced Level

6.21 A pictorial review of the history of housing is presented by teacher. Following presentation students discuss how technology has changed the industries connected with housing.

Each student then selects a cluster of jobs connected with the industry today to research to see how such jobs have evolved from others in the past.

6.22 A speaker representing the housing industry discusses the current trends in volume, styles and materials.

OR

A panel of people involved in a variety of housing occupations discuss trends in their areas. Examples of panel members might include:

Banker who deals with commercial and home loans
FHA or V.A. loan specialist
Builder or contractor
Interior designer or furniture store dealer.

Students may prepare lists of questions for panel before class.

Topical Outline

6.23 Necessary Abilities and Attitudes
- General
- Specific

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Objectives	Conceptual Statements	Beginning Level
6.23 All Levels COMPREHEND the necessary attitudes and abilities for successful employment in the housing and furnishings field.	6.23 When individuals comprehend the attitudes and abilities necessary for the career opportunities in the housing and furnishings industry and the world of work, they will have a basis for judgments concerning career decisions. A career is a major determinant of an individual's life style. The individual's attitude toward work contributes to his success or lack of success. - Social and industrial changes will necessitate change on the part of individuals throughout life to remain in the mainstream of the world of work. - Positions in the production and service clusters of the field require perserverance and steadiness. - The importance of human relationships in light of career cluster selection and satisfaction may be considered by the individual examining the possibilities in the housing and furnishings industry.	6.23 Students view various pictures of people in the world of work. Some appear to have a positive attitude toward work while others not. Students discuss which attitudes generally lead to success in jobs and why. Students role-play people occupying various types of positions in the housing and home furnishings field to show what attitudes are necessary for job success.

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LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
6.23 Students are given aptitude and attitude tests with the cooperation of school guidance counselor to assist them in determining their world of work attitudes and aptitudes. A suggested instrument for use is the Ohio Vocational Interest Survey.	6.23 In conjunction with above suggested activity, the panel may also be asked to describe job opportunity trends in their areas. OR Students hear a personnel director or manager of a business firm dealing with housing or home furnishings on the topic of attitudes and abilities necessary for success in this area. OR Students in urban area interview people from various phases of the industry. Groups of students within class may visit clusters of jobs in which they are interested.

Topical Outline

6.23 Necessary Abilities and Attitudes (continued)
- General
- Specific

6.3 Professional and Supportive Careers

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Objectives	Conceptual Statements	Beginning Level
	The abilities necessary for success in the housing and furnishing industry vary from cluster to cluster. - The service cluster requires individuals with skills in specialized cleaning and renovation and human relations. - The production cluster requires individuals with manipulative skills associated with construction, laboratories and possibly supervision. - The design cluster requires individuals with artistic and human relation skills.	A teacher-level discussion brings out general abilities required for jobs in clusters related to housing and home furnishings.
6.3 Beginning and Intermediate Levels COMPREHENDS the various professional and supportive careers in the housing and furnishings industries. Advanced Level APPLIES the knowledge and skills associated with the various careers in housing and furnishings at a pre-vocational level.	6.3 When professional and supportive careers in housing and furnishings are identified and explored, the individual has a broader perspective of the possibilities, the abilities and skills necessary. 6.31 Supportive careers include those which require fewer educational and skill requirements for success.	6.3-6.33 Students explore professional and supportive careers by visiting various phases of the industry to see the jobs being performed. Students may be given a guide sheet before field trip to direct questions and observations made. OR A career day is held once a week during housing or home furnishings unit. Each week several people from both supportive and professional careers speak, show slides, etc. of jobs.

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LEARNING EXPERIENCES

Intermediate Level	Advanced Level
Students do research to find the abilities, attitudes and skills required for success in various clusters related to housing and furnishings.	
6.3-6.33 Students during housing and furnishings unit or class relate various "useful" home economics experiences to gainful opportunities such as the prospectives designed by the professional to express interior design ideas. OR Students may participate in opportunities to observe for one week a person in a job related to a cluster in which the student is interested. Student may be able to do some jobs which are related to field under direction of person in the occupation.	6.3-6.33 Students may participate in activities listed at the intermediate level. Students may participate in simulated work situations in the classroom. - Drapery workroom may be simulated and draperies made as nearly as possible in production. - Upholstery work for others be accomplished in class with cost figured, etc. - Decorative art work prepared figuring cost, etc., and is marketed at a tourist shop or other place in the community.

Topical Outline

6.31 Supportive Careers
6.32 Professional Careers
6.33 Related Careers
- Fine Arts Related
- Housekeeping Related
- Real Estate Related

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Objectives	Conceptual Statements	Beginning Level
	6.31 Supportive careers are those which are usually a part of a career ladder which may lead to professional positions. Recognize supportive careers include those at entry level and supervisory levels in the three clusters of service, design and production. (See appendix for career ladder.) 6.32 Professional careers in housing and furnishings include those which require a high level of education and are related to the supportive careers. (See appendix for career ladder.) 6.33 Related housing and furnishings careers include those associated with fine arts, housekeeping, and real estate. Fine arts careers include occupations and professions such as architecture, stage set design, art and design. Housekeeping careers include those areas such as hotel housekeeper in charge of upholstery, refinishing, room arrangements. Real estate careers include those associated with the selling, advertising, decorating and furnishing of homes.	6.3-6.33 * Students at the end of this unit are able to identify clusters of jobs in the housing and furnishings industry. Also each should be able to identify the abilities and attitudes necessary generally for success in each cluster.

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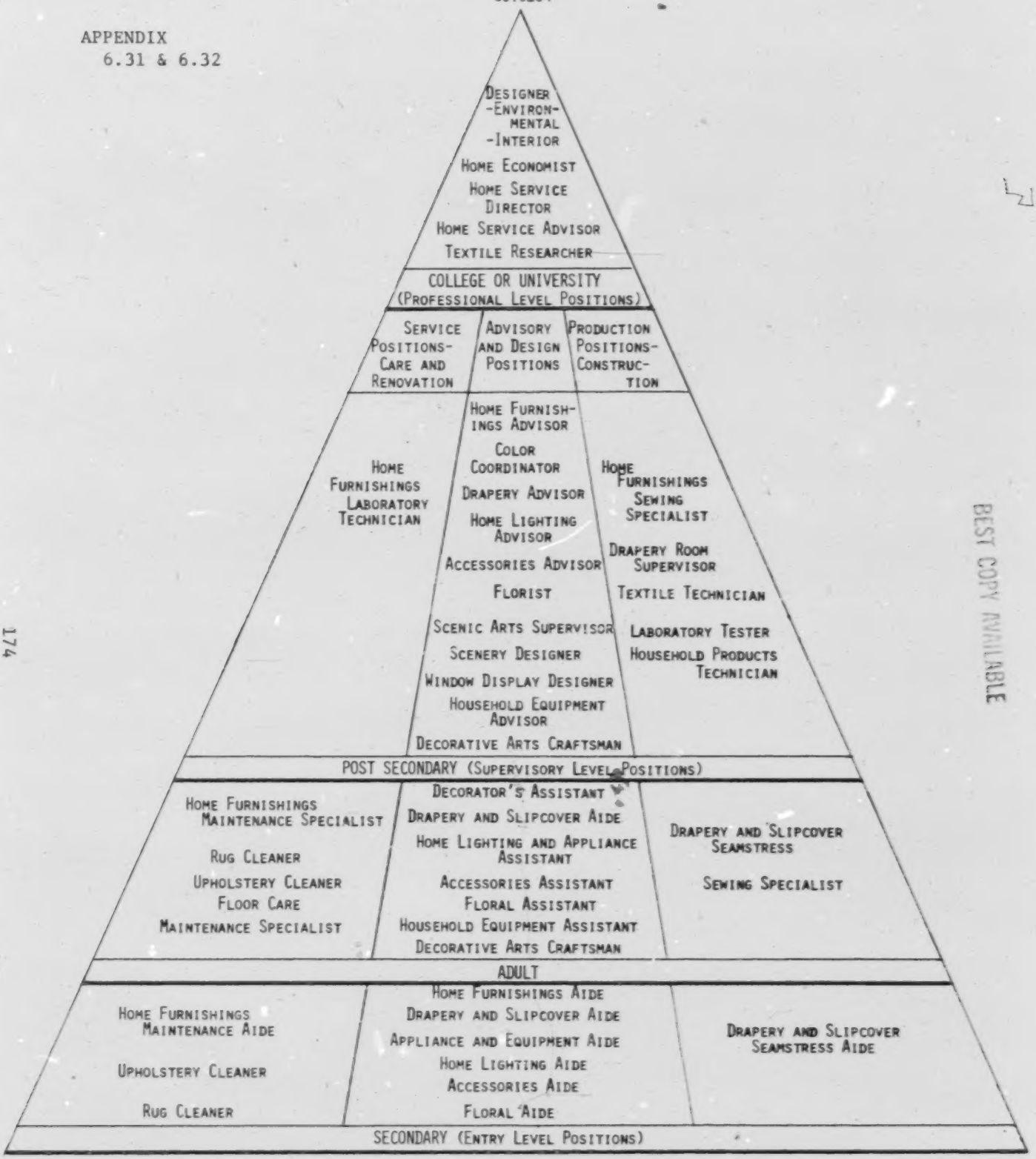
LEARNING EXPERIENCES	
Intermediate Level	Advanced Level
6.3-6.33 * Students are able to give written and verbal description of jobs within the clusters of housing and furnishings.	6.3-6.33 * Students are able to perform competencies associated with simulated work experiences related to job clusters in housing and furnishings.

HOME FURNISHINGS, EQUIPMENT AND SERVICES
09.0204

APPENDIX
6.31 & 6.32



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ARIZONA DEPARTMENT OF VOCATIONAL EDUCATION
HOME ECONOMICS EDUCATION 1-71

HOUSING AS ENVIRONMENT

What is the annual income of a carpenter who gets eight dollars an hour but remains unemployed? What is the value of a house of sound construction, recently built, according to strict building codes, on a fine site, in a good neighborhood if it remains unoccupied?

I happen to be an architect by training but a teacher by good fortune, and I believe that a good teacher is someone who is not interested in his own ideas but is interested in the minds of his students. Teaching is the art of developing or cultivating another mind and helping it to grow and increase its powers.

Similarly, housing is the art of developing or cultivating the habitat to enable man to become his best self. "House", therefore, is not only a noun, it is also a verb and housing becomes a process, a process by which we harbor or stow in a safe place for maximum growth and development.

A house that fits the individual and his family is like an ecological niche that provides a plant or animal with the best interrelationships between the living organisms and their environment. Such a house or niche provides a fitness or a right-ness toward which we should all strive.

Housing as process is action: I am housed; you are housed; he is housed; we are housed. This adds a new dimension to housing. Most inadequate is thinking of housing as a floor plan. This is only two dimensional -- even when we add drawings that show elevations and sections we still have only representation. Actual three dimensional construction is required to give it form. But now we must add time -- the house that is right for me today is not the one that was best ten years ago nor best for me for tomorrow. The house may not change but the housing must change. How kinetic it must become for we have added a fifth dimension -- that of motion. We run to greet someone at the door. We prepare food, we light the fire - this action which our house may simplify or thwart. Having lighted the fire and settled down with a good friend, a good dog, or a good book, we come to understand the sixth dimension - that of sensing the place. This sense of place, this fitness, this feeling or relatedness between the house and the housed.

An example of this relatedness between the house and the housed can be found within an apple - an apple that contains a worm. Nourished by the apple the worm leaves this habitat to establish itself in the crotch of the tree where it builds itself a new home (sweat equity) by spinning a cocoon. Time passes and with the coming of spring the insect emerges as a butterfly in time to visit the blossoms on the tree. The petals fall leaving the seedpod to develop into a small green pod which grows into a small green apple which grows in time into a large, luscious red apple. The apple may contain a worm and the cycle begins again.

Housing as environment, therefore, is cyclical -- it is the cyclical process of man's ecological niche.

--Christine F. Salmon
July, 1970

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FOSSILS TO FRUITS - THE FUNDAMENTALS OF HOUSE DESIGN *

Christine F. Salmon, AIA, AID
Associate Professor
Oklahoma State University

We are going to talk this afternoon about the fundamentals of design. Actually we have been talking about design ever since these sessions started, for all of us here are actively engaged in this business of design in one way or another and in varying degrees. This means I should probably sit down right now because we ought to stop talking to each other; Architects should stop talking to Architects; Home Economists should stop talking to Home Economists and start talking to Architects, to exchange ideas and to see the many different ways there are to look at different things.

In trying to put together some of the different ways we might look at design ideas, I thought we might move from the fossils to the fruits of design. I have brought some of each with me.

Here, as Exhibit A, is a fossil. No, this is not a salmon, it is a sunfish - a sunfish that was around about 50 million years ago. I enjoy looking at this fossil very, very much. It teaches me not only about sunfish and how very different this is from the things we call sunfish today, but this fossil also teaches me that it is not a sunfish at all!

This is just so much carbon, plus a few other minerals. Here is a skeletal thing of something that used to be a sunfish. It does not matter how much artificial respiration or other life giving techniques we might apply to this thing, it still remains a fossil, and it is from this that we can acquire a lesson in design.

Suppose this fossil were not in the shape of a former sunfish, but suppose instead it had the shape of an English manor. Suppose it had the shape of Mediterranean Castle. Suppose it were Williamsburg. No amount of the life saving or life giving devices can bring fossils to life. It doesn't matter how many fins or bones or tails or teeth there might be, the important thing about the kind of house we design is how alive each part is.

So much for fossils. Let us put this one aside gratefully - for our lesson in the importance of the liveliness of design and let us look at some of the fruits of design.

Design is composed of parts; principles and proceedures. The parts you know from any elementary design course - these we call elements of design.

The elements of design are sometimes listed as light, color, pattern, texture, line and form. Some texts stop here, others go on and say we can also have space and arrangement. These last two have been called the intangibles while the others are the tangible elements of design: I particularly like this

* Journal of Home Economics - January 1965

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word tangible with respect to color because I like to think of Color by the hands full - by the touchability of double strength vermillion - something like that. Color is something you can feel, touch, almost taste. You know it's there in substance and not just applied. Too often we think that color and paint are synonymous, just as we link lamps and light though these may also be totally unrelated in design.

We used to say that if we did not have light we would have none of the visual elements. Since having had the good fortune of working on buildings for the blind I've learned how very important all the visual elements become because there are so many ways to see. We get a direct visual reaction to design elements, the blind person gets an indirect reaction but each is profound. They see the brightness or cheerfulness of colors through your reaction to them. They feel the textures, they sense the forms. A blind person in a circular room becomes quickly lost. He needs a way back, he needs a way forward. We all need this. I am amazed, always, at how we learn from these who are supposed to learn from us. We were supposed to be doing an architectural job for the blind and they did it for us by emphasizing our need for a point.

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I would like to add to the list of elements of design a point or rather the point. We need a point, a compass point, a point of reference. One of the exciting things about the city of Lincoln is the beautiful point of reference you have in the State Capitol building. It is difficult to get lost here because you have a very substantial point of reference. We need this in cities, we need it in our homes, in the living room, the kitchen, the top drawer.

There are other elements of design that we need to consider. One of these is time. If you design a floral arrangement to be used for a one o'clock luncheon, it is often a different design by noon the next day. The changes in sunlight because of the changes in time are seldom enjoyed to the full extent of their design potential. We have entirely excluded this delightful possibility from this meeting room by sitting here all day with draperies drawn. As time changes, design changes.

Another design element is motion. A room that contains the shadows of trees blowing in the breezes is a more interesting room because of this motion. Motion of people to and through a house, a school, a city is one of the most crucial parts of design. This type of motion is called circulation - horizontal or vertical - and is part of the element of kinetics in design.

The elements of design are quite like elements in any other area of endeavor. When I was first introduced to chemistry the table of elements was not very extensive - I had less to memorize than those who take beginning chemistry today. And I trust tomorrow's chart will be even more extensive. We should leave several blank spaces at the bottom of this check list of design elements where we can put new ones as they are discovered and I think all of us should be watching very, very carefully so that we might be the ones to discover some new element of design. I know of no Nobel Prize for this type of discovery, but the rewards could be better buildings.

Let us look next at the principles of design. At the top of the list of principles of design I would place "delight". I have seen "function" placed at the top, but with this I cannot agree. If we were to design a tea cup and

it did not hold tea because it had a hole in the bottom, it would not be a tea cup - it would be more nearly a funnel; so it seems to me that this functional idea is a base below which we dare not go. Let's cross it out and put in its place "delight". There are too many examples of the little woman who had a nervous breakdown, or near nervous breakdown, because while building or remodeling a house there was no delight.

The principle of "integrity" is also at the top of the list. This has to do with things being what they seem, with establishing confidence, with reliability. If children in a third grade class write their lessons on desks that look like birch but are actually laminated plastic, are they not being exposed to cheating? Can cheating in the design of the environment establish a precedent for cheating in Arithmetic? As designers, one of our greatest responsibilities is design integrity.

Related to this principle of integrity in design is the need for knowledge. This is expressed in the idea of "commencement" after completion of a series of studies. It is the need for knowledge, and more knowledge, edited and re-edited, changed and applied in different ways for different situations, that must be pursued constantly as a principle of design.

Related to these are ideas we might call operating principles. These include timelessness, continuum and universality of design. I remember growing up as part of a four generation family. No one was ever the "right" age so each member had to grow and adjust accordingly and certainly the total was more interesting and rewarding because of this. The same thing happens when different generations of design are intermixed. The Windsor Chair is at home in many settings, so are Revere bowls and Prestini trays. The College Campus that reflects in its design the contributions of many generations can be a more pleasing and vital place than one that gives the impression that prior to some time in design history there were no examples worth keeping or that beyond a certain period or style all progress ceased.

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Closely related to this is design continuum. This has to do with space continuum rather than time. Let me illustrate this with a button. A button, generally speaking, doesn't require much space, but in a crafts class we once had a veritable epidemic of enamel buttons. Some of these were quite handsome, some were not. If you take one of the good buttons and put it on a bad dress or suit the button is no longer quite so good as it was. A lamp placed beside one chair may become a good reading lamp, but placing it beside a lower or higher chair may completely destroy or reduce its effectiveness. A pleasing living room becomes even more enjoyable when there is a good view from the window. Like the circles from a stone thrown into the water, this ongoingness is design continuum.

The universality of design is the total design. It is the big idea. It is not just a door knob, but it is the knob on the door, the door on the house, the house on the lot, the lot in the block, the block in the neighborhood, the neighborhood in the city, state and country; even the planets and the galaxies need not limit our design ideas; and just because our inventiveness stops is no reason why the planets should stop. The littlest thing in the largest setting, with all resulting interrelationships, is the universality of design.

Now let us come back quickly from outer space and go into inner man because here we find another principle of design which is the dignity and the worth of the individual. Nothing we design should demean man, but rather it should help him stand straighter and be better. Nothing is so important as the individual and, as an individual, the important thing about you is that you are you.

Individual differences, for each of us is different, gives us another principle which is that of the depth of design. This raises questions such as, "design for whom?", "doing what?", "with whom?". For you, standing on a corner, walking down the street, or riding in your car. These are all different dimensions of the same you, yet you take up 100 times more space driving than you do standing. You in a wheel chair or you using a crutch are different space ideas. Design for specific people doing specific things gives design the depth that it must have.

Procedures of design will be our next consideration. How do you design? Design is more than a juggling and application and re-application of the ideas of others. Design is a thinking process; it is a cooperative apartment in a city or a ranch house on the prarie in design we are our brothers keepers. We share the smell from the glue factory or we share the view of the park. The choice, to make and maintain, is up to us.

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Design procedures require inventiveness and so, if our inventiveness should ever cease, our design success would be at an end. Design, in addition to being a thinking process is a highly creative process with each succeeding generation making its own unique contribution to the history of design. And, as in other areas, it is not easy to turn back the pages of history, in fact, it is not possible.

Let us go forward then to Exhibit B. Here is a beautiful red apple, a fragrant yellow lemon and a fresh green pepper. These are not fossils. These are fresh designs full of color, texture, form delight and integrity.

The pepper looks like a pepper, feels like pepper, smells like a papper - in fact it is a pepper. When we slice it horizontally we understand why there are indentations on the surface - because of these structural ribs inside. When we examine it further we become aware of the supberb organization of the space. Closest to its life giving stem is the seed cluster, beyond this is enough space for the seeds to develop and grow, and surrounding this a strange, simple structure that encloses and protects the developmental activities. Good peppers build good houses - even bad peppers build pretty good houses. I wish we always did as well. I wish we could have as high a degree of order and spatial organization.

Now let us look at some lemons. Here is one that has that wonderful lemon fragrance that only a lemon can have. Here is one that smells like genuine plastic, and it has a small green screw-on cap at the top. If we slice the first one horizontally, we can be reasonably certain that we'll find a relatively tough circle of skin, yellow on the outside and white on the inside. This circle will be crossed by many radii and near the center will be seeds. If we were to slice the plastic lemon, it becomes at once a farce.

Let us now look at the apples. How solid and round and firm! Let's examine the interior by slicing it. How do you slice your apples? Vertically. Well, here then is why the outside looks like it does. We're now aware of the tear drop form of the exterior that is produced by gravity as the apple hangs from the stem. We're also aware of the seem inside the core and the almost moon-like center. When we slice the apple horizontally, we get a very different picture. It is round and we now know that gravity has been acting uniformly on this object at this level. If we make another cut in this same direction so that we have a very thin horizontal slice of apple and compare this to the total fruit, we find very little likeness. (This is similar to the relationship that a floor plan has to a finished house, but the plan has the additional difference of scale. Often the success of the house depends upon the success of the translation from a two dimensional one quarter inch scale drawing to the three dimensional full scale house.) We find that at the center of the apple, looking at it this way, there is a cluster of seeds that looks like a star. It's been said that all you have to do is peel apples and you can hold the moon and the stars in your hands.

Let's imagine that we could have the apple trade shells with the lemon or the pepper trade structures with the apple. This is impossible. This is absurd. But we put Georgian shells on modern floor plans and then wonder why our housing picture presents some problems. We must stop trying to compress watermelon size houses into strawberry size structures.

Let us try a more direct route toward design of good houses. A straight line, devoid of doubts and devious methods, could provide not only the shortest distance but also the best solutions. These kinds of answers could give us houses that would permit the continued growth and development of man and his soul. Some of the fundamentals of this kind of design have been discussed - the application of them should be the responsibility and the joy of each of us.

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ECOLOGY: MAN SHAPES HIS ENVIRONMENT

"From Nature's chain, whatever link you strike,
Tenth, or ten thousandth,
breaks the chain alike."

ALEXANDER POPE

Earlier this year, the nocturnal stillness of Knott County, Ky., was shattered by a gigantic explosion. Someone had fastened dynamite charges to a diesel power shovel of the Kentucky Oak Coal Company and blasted it, as they say, to kingdom come. Feuds are, of course, nothin' new to the Kentucky hills, but this one had implications the Hatfields and McCoys never dreamed of. Disputed were the rights of strip coal miners to tear up the homes and yards of eastern Kentucky residents to get at the coal beneath. Rights to coal just beneath the surface were given to the mines 60 to 100 years ago in so-called "broad-form" deeds, and so far the Kentucky courts have upheld the rights of the miners. A further ruling is due this month from the Kentucky Supreme Court. Home owners are understandably reluctant to see their homes destroyed with no compensation. "Random shooting from both sides has become commonplace," read a report from the area in mid-July. "Mine guards go armed." But the ramifications of strip mining go even beyond the personal tragedy of home owners. For wherever strip mining occurs, the land is made unfit for habitation. Not only does the surface soil get removed or mixed with deep-lying minerals, making it impossible for it to support vegetation, but also pools of water fill in depressions and irregularities with high concentrations of dissolved substances inimical to life. Moreover, where the vegetation is stripped away, the earth becomes prey to the effects of wind and rain. Much the same thing happened in the 1930's on the great Midwestern plains. The grasslands were plowed under for crops, which died during a drought. Left unprotected, the land blew away in swirls and clouds that blotted out the sun, burying homes and hopes alike. Suddenly, thousands of families were without means of support, defeated by their ignorance of natural sequences of events. The study of these sequences is known as ecology -- literally, the study of man (or any other living organism) in relation to his environment. Unlike other animals, man has a penchant for fouling his own nest, partly because of a lack of ecological knowledge, partly because he seems not to care.

Nor any fish to eat -- Take the alewives, for example. Originally a salt-water fish, the alewives crept into the Great Lakes when the St. Lawrence Seaway was opened about 10 years ago. With no natural enemies to keep them in check, they have proliferated until the lakes contain literally millions of them. This summer, millions died, perhaps from pollution, perhaps from sudden changes in water temperatures. Whatever the cause, lakeside cities, especially Milwaukee and Chicago on Lake Michigan, found their lakefront beaches covered with dead alewives. Water intakes were clogged, and an overpowering stench wafted inland on northeasterly breezes. Crews worked around the clock with bulldozers trying to clear the beaches; Chicago even sprayed the decaying mass with deodorant. At the height of the summer season, lake cities found their beaches unusable.

The alewives might have met with natural enemies in the Great Lakes, but

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the opening of the Welland Canal connecting Lake Ontario and Erie some 40 years ago let in the lampreys -- long, black, fish-eating eels. The canal was helpful to the shipping industry. At the same time, by providing a passageway for the lamprey it effectively killed the Great Lakes fishing industry. Like the alewife, the lamprey found no natural enemies in the lakes. (It had originally been a denizen of the Atlantic, also like the alewife.) And with nothing to check its progress, it ate its way through the lakes, completely wiping out the trout and pike. With the fish went not only the fishing industry but peripheral industries, such as fish distribution and sea food restaurants. Through some brilliant work by biologists, the lampreys are now under control. But the alewives are not. A $10 million bill is pending in Congress to find out what to do with them.

Unplanned suicide -- A Pandora's box is opened each time someone tampers unknowingly with man's environment. Although the alewives were mostly only a costly nuisance, more often man's tampering with the ecological balance can cost him his own life. Perhaps the most dramatic example came recently with the death of three American astronauts. Engineers had sought to make the rocket load lighter by using pure oxygen inside the space capsule. What they overlooked is that a spark fed by pure oxygen can cause a life-snuffing fire. human ecology. Man exists in air, not in pure oxygen.

In southern California, the push for living space has led man to redesign the hills, land formerly considered too steep for adequate housing. In his book, Eden in Jeopardy, Richard G. Lillard describes the results of this particular folly.

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"From around 1945 on, up and in went the skiploaders and bulldozers and big eight-wheeled trucks to hack at primeaval green slopes and reduce them to crumbly, desolate cliffs, ripping at ancient seepages and springs, dumping topsoil to creek bottoms and covering it flat with sterile inner layers. Often contractors, as they skimmed the tops of hills, or as they ran their arbitrary roads up hillsides or as they gouged out little shelflike pads for bungalows or castles, had the machinery efficiently shove tons of loose dirt and brush over the side, where it slouched, loosely held up by bushes. 'Just shove 'er over. The brush'll hold'er!"

Then, of course, the rains came. Lillard goes on: "Tons of rainwater soaked into tons of loose dirt and rock in the raw cuts and loose fills until finally the soggy masses uprooted the shrubs they on and slipped rumbling and smashing down the slopes. Rivers of ruin on denuded hillsides picked up rocks and soil and roared down. Sometimes as the mud flows gave way they pulled the foundations out of the house just above them. More often they piled up around the houses below them, new spic-and-span all-glass contemporary homes, and then when the mudslides slopped up deep and heavy enough, they went on through the houses, pushing in walls and windows, filling swimming pools, carrying away terraces and plants and trees and all the accumulated objects of Home, Sweet Home and Garden Beautiful."

Finally, in 1952, a Los Angeles ordinance set restrictions for the cutting and grading of hills and for the drainage of water. But even so, drains clog, seepage from drains and swimming pools puts pressure on weakened soil, and careless contractors grade during the rainy season. So landslides still occur.

The finger in the dune -- The same type of needless destruction happens along the eastern seaboard, because there, as elsewhere, man has tampered heedlessly with his environment. In 1962, the northeast coast was lashed by a violent three-day storm. Day after day, 60 mph winds pushed 40' waves against the shore from Long Island to Georgia. In New Jersey alone, 2400 homes were destroyed, 8300 partially damaged, and in all, $80 million worth of damage done. Almost all of it could have been avoided, if man had heeded knowledge about natural processes. Ian McHarg, chairman of the landscape architecture department at the University of Pennsylvania, wrote about that storm in an essay entitled "Ecological Determinism":
"The theory of dune formation is well understood, as is stabilization by vegetation. The ecological communities from beach dune to bay shore have been their limiting factors. In the Netherlands, the value of dunes and their stabilizing grasses and the important role of ground water are known and attributed value, but not, however, in New Jersey. It is common knowledge that beaches are highly tolerant to human use but that dunes and their grasses are not. Development of the Jersey shore included breaching of dunes for many purposes -- home building, beach access, etc. No constraints were placed upon use of dunes so that vegetation died and the dunes became unstable; no effective restraints were placed upon withdrawals, ground water which inhibited vegetation growth. Considerable areas were waterproofed by buildings, roads, parking areas which diminished recharge of the aquifers. The consequences were inevitable: with its natural defenses destroyed, the shore was vulnerable and was extensively damaged."

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McHarg has two professional ecologists teaching on his staff at Pennsylvania. He considers a knowledge of ecology so important for his landscape architects that his department offers the university's ecology courses. Graduate students in biology who want ecology credits take them in the department of landscape architecture.

Fouling the waters -- There seems to be nothing man likes to foul better than water. By pouring sewage and the wastes of industrial processes into lakes and streams, he not only makes the water undrinkable, but he also often makes it impossible to swim in it, and kills off its wildlife, which has provided both recreation and food. So polluted is Lake Erie that little life exists in it. Its beaches have been closed to swimming for years. In Lake Erie, the effects of pollution have run their course, and the Federal Government is being forced to undertake a $3,900,000,000 program to clean it up. Deep in Soviet Russia, Lake Baikal, which contains one-fifth of the world's lake water, is just beginning the pollution cycle. A newly opened pulp mill is pouring its waste into the lake in quantities sufficient to worry biologists about the ultimate fate of some 1000 species of plant and animal life found only in that lake. Also threatened is the lake's considerable fishing industry, currently producing 35% of Siberia's fish catch. Hundreds of thousands of the world's smaller lakes are threatened by the wastes produced by the sewage of the homes that line their banks. Slowly, what was once an ideal home site becomes a homesite next to a sewer.

Marshes are invaluable -- Wetlands, the coastal marshes rimming much of the continental United States, are suffering much the same fate as lakes and rivers, with much the same dire results. As these wetlands are dredged away to provide landfill, or filled in with garbage and other pollutants, or paved

for roads of housing developments, factories or marinas, several things happen. For one thing, removing or covering the nearly indestructible peaty salt marsh barriers destroys one of the greatest natural buffers against storms. High seas are absorbed by these marshes the way sponges absorb water. Like dunes, they protect the land behind them. Another thing that happens, ironically, is that some of man's most economically valuable food is destroyed. An acre of salt marsh can produce 300 lbs. of edible scallops per year, more than an acre of grassland can turn out in beef. Besides, these marshes afford protection for both the young of many food fish and for the Crustacea and other invertebrate creatures they eat. If the marshes are destroyed, a large portion of the offshore commercial fishing may be endangered. "A marsh takes a good thousand years to be created," Dr. Nelson Marshall, professor of oceanography at the University of Rhode Island, told a reporter recently. "It can be destroyed in a day."

Cities and climate -- As the rapid filling and paving of the United States' vast metropolitan stretches picks up speed, it appears that such huge, relatively unalleviated areas of concrete, steel, and other man-made materials can appreciably change the climate. Everyone knows that it is usually warmer in the city than in the country. "The temperature tonight is expected to dip into the sixties in the city and into the upper fifties in the suburbs," announces the radio. And the reasons for this disparity are not hard to find. The rock-like materials of cities store heat more effectively than do trees and open land. Moreover, tall buildings keep cooling breezes from dispersing the heat. The rain and snowfalls in cities are allowed to run off in gutters so that the cooling effect of their evaporation is lost. Just how all this affects continental climates is not precisely known. In fact, it is thought by some that, despite the heating effects of cities, the climate is becoming slowly cooler. The cooling trend is explained as a result of the increased carbon dioxide in the air, man-made pollution, which throws up a dome-shaped shield against the sun's rays. Not as much heat reaches the ground, and the earth slowly becomes cooler. Whatever is happening, with care, man can guard against it. Judicious interspersal of cities and parkland, the placing of buildings to allow for the cooling, clearing effects of wind, and, of course, the control of pollution, can keep climate in balance. The important thing -- and for man it seems almost impossible to do -- is to keep from tampering with nature without knowing what the results will be. Once the economic significance of preserving the environment -- and indeed the need to preserve it if we are going to preserve ourselves -- is recognized, we can avoid the confusion Dr. Rene Dubos of the Rockfeller Institute has noticed. "Throughout the centuries," he states, "man worshipped nature. He still does, but now he does it with a sense of guilt."

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Progressive Architecture, September, 1967

OVERPOPULATED AMERICA
Our Affluence Rests on a Crumbling Foundation
by: Wayne H. Davis
The New Republic - January 1970

I define as most seriously overpopulated that nation whose people by virtue of their numbers and activities are most rapidly decreasing the ability of the land to support human life. With our large population, our affluence and our technological monstrosities the United States wins first place by a substantial margin.

Let's compare the U.S. to India, for example. We have 203 million people, whereas she has 450 million on much less land. But look at the impact of people on the land.

The average Indian eats his daily few cups of rice (or perhaps wheat, whose production on American farms contributed to our one percent year drain in quality of our active farmland), draws his bucket of water from the communal well and sleeps in the mud hut. In his daily rounds to gather cow dung to burn to cook his rice and warm his feet, his footsteps, along with those of his countrymen, help bring about a slow deterioration of the ability of the land to support people. His contribution to the destruction of the land is minimal.

An American, on the other hand, can be expected to destroy a piece of land on which he builds a home, garage and driveway. He will contribute his share to the 142 million tons of smoke and fumes, seven million junked cars, 20 million tons of paper, 48 billion cans, and 26 billion bottles the overburdened environment must absorb each year. To run his air conditioner we will strip-mine a Kentucky hillside, push the dirt and slate down into the stream, and burn coal in a power generator, whose smokestack contributes to a plume of smoke massive enough to cause cloud seeding and premature precipitation from Gulf winds which should be irrigating the wheat farms of Minnesota.

In his lifetime he will personally pollute three million gallons of water, and industry and agriculture will use ten times this much water in his behalf. To provide these needs the U.S. Army Corps of Engineers will build dams and flood farmland. He will also use 21,000 gallons of leaded gasoline containing boron, drink 28,000 pounds of milk and eat 10,000 pounds of meat. The latter is produced and squandered in a life pattern unknown to Asians. A steer on the Western range plants containing minerals necessary for plant life. Some of these are incorporated into the body of the steer which is later shipped for slaughter. After being eaten by man these nutrients are flushed down the toilet into the ocean or buried in the cemetery, the surface of which is cluttered with boulders called tombstones and has been removed from productivity. The result is a continual drain on the productivity of range land. Add to this the erosion of overgrazed lands, and the effects of the falling water table as we mine Pleistocene deposits of groundwater to irrigate to produce food for more people, and we can see why our land is dying far more rapidly than did the great civilizations of the Middle East,

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which experienced the same cycle. The average Indian citizen, whose fecal material goes back to the land, has but a minute fraction of the destructive effect on the land that the affluent American does.

Thus I want to introduce a new term, which I suggest be used in future discussions of human population and ecology. We should speak of our numbers in "Indian equivalents". An Indian equivalent I define as the average number of Indian citizens required to have the same detrimental effect on the land's ability to support human life as would the average American. This value is difficult to determine, but let's take an extremely conservative working figure of 25. To see how conservative this is, imagine the addition of 1000 citizens to your town and 25,000 to an Indian village. Not only would the Americans destroy much more land for homes, highways and a shopping center, but they would contribute far more to environmental deterioration in hundreds of other ways as well. For example, their demand for steel for new autos might increase the daily pollution equivalent of 130,000 junk autos which Life tells us that U.S. Steel Corp. dumps into Lake Michigan. Their demand for textiles would help the cotton industry destroy the life in the Black Warrior River in Alabama with endrin. And they would contribute to the massive industrial pollution of our oceans (we provide one third to one half the world's share) which has caused the precipitous downward trend in our commercial fisheries landings during the past seven years.

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The per capita gross national product of the United States is 38 times that of India. Most of our goods and services contribute to the decline in the ability of the environment to support life. Thus it is clear that a figure of 25 for an Indian equivalent is conservative. It has been suggested to me that a more realistic figure would be 500.

In Indian equivalents, therefore, the population of the United States is at least four billion. And the rate of growth is even more alarming. We are growing at one percent per year, a rate which would double our numbers in 70 years. India is growing at 2.5 percent. Using the Indian equivalent of 25, our population growth becomes 10 times as serious as that of India. According to the Reinows in their recent book, Moment in the Sun, just one year's crop of American babies can be expected to use up 25 billion pounds of beef, 200 million pounds of steel and 9.1 billion gallons of gasoline during their collective lifetime. And the demands on water and land for our growing population are expected to be far greater than the supply available in the year 2000. We are destroying our land at a rate of over a million acres a year. We now have only 2.6 agricultural acres per person. By 1975 this will be cut to 2.2, the critical point for the maintenance of what we consider a decent diet, and by the year 2000 we might expect to have 1.2.

You might object that I am playing with statistics in using the Indian equivalent on the rate of growth. I am making the assumption that today's Indian child will live 35 years (the average Indian life span) at today's level of affluence. If he lives an American 70 years, our rate of population growth would be 20 times as serious as India's.

But the assumption of continued affluence at today's level is unfounded. If our numbers continue to rise, our standard of living will fall so sharply that by the year 2000 any surviving Americans might consider today's average

Asian to be well off. Our children's destructive effects on their environment will decline as they sink ever lower into poverty.

The United States is in serious economic trouble now. Nothing could be more misleading than today's affluence, which rests precariously on a crumbling foundation. Our productivity, which had been increasing steadily at about 3.2 percent a year since World War II, has been falling during 1969. Our export over import balance has been shrinking steadily from $7.1 billion in 1964 to $1.15 billion in the first half of 1969. Our balance of payments deficit for the second quarter was $3.7 billion, the largest in history. We are now importing iron ore, steel, oil, beef, textiles, cameras, radios and hundreds of other things.

Our economy is based upon the Keynesian concept of a continued growth in population and productivity. It worked in an underpopulated nation with excess resources. It could continue to work only if the earth and its resources were expanding at an annual rate of 4 to 5 percent. Yet neither the number of cars, the economy, the human population, nor anything else can expand indefinitely at an exponential rate in a finite world. We must face this fact now. The crisis is here. When Walter Heller says that our economy will expand by 4 percent annually through the latter 1970s, he is dreaming. He is in a theoretical world totally unaware of the realities of human ecology. If the economists do not wake up and devise a new system for us now somebody else will have to do it for them.

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A civilization is comparable to a living organism. Its longevity is a function of its metabolism. The higher the metabolism (affluence), the shorter the life. Keynesian economics has allowed us an affluent but shortened life span. We have run our course.

The tragedy facing the United States is even greater and more imminent than that descending upon the hungry nations. The Paddock brothers in their book, Famine 1975!, say that India cannot be saved no matter how much food we ship her. But India will be here after the United States is gone. Many millions will die in the most colossal famines India has ever known, but the land will survive, and she will come back as she always has before. The United States on the other hand, will be a desolate tangle of concrete and ticky-tacky, of strip-mined moonscape and silt-choked reservoirs. The land and water will be so contaminated with pesticides, herbicides, mercury fungicides, lead, boron, nickel, arsenic and hundreds of other toxic substances, which have been approaching critical levels of our numbers and affluence, that it may be unable to sustain human life.

Thus as the curtain gets ready to fall on man's civilization, let it come as no surprise that it shall first fall on the United States. And let no one make the mistake of thinking we can save ourselves by "cleaning up the environment." Banning DDT is the equivalent of the physician's treating syphilis by putting a bandaid over the first chancre to appear. In either case you can be sure that more serious and widespread trouble will soon appear unless the disease itself is treated. We cannot survive by planning to treat the symptoms such as air pollution, water pollution, soil erosion, etc.

What can we do to slow the rate of destruction of the United States as a

land capable of supporting human life? There are two approaches. First, we must reverse the population growth. We have far more people now than we can continue to support at anything near today's level of affluence. American women average slightly over three children each. According to the Population Bulletin, if we reduced this number to 2.5 there would still be 330 million people in the nation at the end of the century. And even if we reduced this to 1.5, we would have 57 million more people in the year 2000 than we have now. With our present longevity patterns it would take more than 30 years for the population peak even when reproducing at this rate, which would eventually give us a net decrease in numbers.

Do not make the mistake of thinking that technology will solve our population problem by producing a better contraceptive. Our problem now is that people want too many children. Surveys show the average number of children wanted by the American family is 3.3. There is little difference between the poor and the wealthy, black and white, Catholic and Protestant. Production of children at this rate during the next 30 years would be so catastrophic in effect on our resources and the viability of the nation as to be beyond my ability to contemplate. To prevent this trend, we must not only make contraceptives and abortion readily available to everyone, but we must establish a system to put severe economic pressure on those who produce children and reward those who do not. This can be done within our system of taxes and welfare.

The other thing we must do is to pare down out Indian equivalents. Individuals in American society vary tremendously in Indian equivalents. If we plot Indian equivalents versus their reciprocal, the percentage of land surviving generation, we obtain a linear regression. We can then place individuals and occupation types on this graph. At one end would be the starving blacks of Mississippi; they would approach unity in Indian equivalents, and would have the least destructive effect on the land. At the other end of the graph would be the politicians slicing pork for the barrel, the highway contractors, strip-mine operators, real estate developers, and public enemy number one - the U.S. Army Corps of Engineers.

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We must halt land destruction. We must abandon the view of land and minerals as private property to be exploited in any way economically feasible for private financial gain. Land and minerals are resources upon which the very survival of the nation depends, and their use must be planned in the best interests of the people.

Rising expectations for the poor is a cruel joke foisted upon them by the Establishment. As our new economy of use-it-once-and-throw-it-way produces more and more products for the affluent, the share of our resources available for the poor declines. Blessed be the starving blacks of Mississippi with their outdoor privies, for they are ecologically sound, and they shall inherit a nation. Although I hope that we will help these unfortunate people attain a decent standard of living by diverting war efforts to fertility control and job training, our most urgent task to assure this nation's survival during the next decade is to stop the affluent destroyers.

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YOUR RIGHT TO A FINE CITY.....

What is gained if a man's house and garden are splendid, but traffic, jets, and smog-laden air assault his enjoyment of them? No fence is high enough to protect a house from those intruders. What is gained, moreover, if a man's house and garden are remote from his work, distant from fine schools, far from good theatre, removed from the discourse good government requires? No house, however fine, can stand alone. It requires a whole and healthy environment to support it and, hopefully, to enhance it. It is the physical and social environment that makes a house more than mere shelter--the quality of the town or city where it stands.

How many people must gather in a community before they are able to support services such as public water, fire protection, and paved streets? How many people must gather before there can be a good public school system, a rich library, a distinguished museum of art or of science? Obviously, the answer depends upon the kind of people. A Naples can support several operas; it is by no means certain that New York is ready to support even one. As the legacies of Boston, Philadelphia, and Baltimore attest, city halls, libraries, schools, churches, and museums were early concerns of the Federalist city builders. Intention, rather than size or numbers, brought the institutions about. The intent was not merely to stretch housing upon the land, but to create urbanity, which is the essence of every fine city, large or small.

To have a fine city, people must first want one. There is, for example, no technological or economic or legal reason why Detroit does not have a public transit system as efficient, attractive, and convenient as the one in Stockholm. There is, again, no technological or economic or legal reason why Cleveland should not have the Cuyahoga River water as clean as the water German industries return to the Elbe. Nor need we go abroad to seek examples or urban amenity. Americans, too, once cared about their cities and wanted fine ones. Philadelphia's Rittenhouse Square and Fairmount Park, Annapolis' Statehouse grounds, Chicago's Michigan Boulevard, Savannah's Factor's Walk and Bull Street, the Mall in Washington--each shows that good city building can occur in America if our citizens will only insist on it.

To build new cities and to re-build old cities are difficult, slow tasks, made more difficult by the systems of transportation and communication we require today. City building is not a matter, we have learned, of carving 40,000 miles of Federal superhighways. It is not a matter, we are learning, of wholesale demolition and renewal. It is not a matter, we shall learn, of building some cultural and civic center downtown. For all of those answers beg the question of why men gather in cities. Is it not because cities give us maximum choice in the satisfactions of living?

Taking that as an ideal, we must insist that our cities countenance more of our needs than they have. We should no longer permit city planners to attend only to downtown merchants pressing for parking spaces. Planning must respond to the needs of our youth. Planning must respond to the need for whole environments where individual houses are enhanced by the services, including the cultural services, we all enjoy. A truly fine city is a work of art intended for a whole society.

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To men continuously seeking their own uniqueness while they yearn for allegiance with other men, a fine city offers abundant opportunities for both retreat and membership. There are places of tranquility in the heart of a Parisian park as much as in the Bibliotheque Nationale or a London Club in a fine city. There are places to witness spectacles, organized spectacles like the Palio in Siena and New Orleans' Mardi Gras, daily dramas like the mass at St. Peter's and the changing of the guards at Whitehall, incidental pageantry such as that provided by gondolas at Venice.

In a fine city, memory serves us. Part of an educated delight in Florence lies in re-peopling the Piazza della Sognoria at the moment at which Savonarola climbed his pyre. We recall the Hippodrome, long buried, where Byzantiums Justinian and his scheming Theodora pitted bears and men. A walk in Salem still reminds us of its Hawthorne, its ship-builders, its privateers, and its great men who sailed the seven seas. History marks the Wittenberg door where Luther nailed his theses, stains the pavement where Canterbury's Archbishop fell, cuts the path Christ trod to Calvary. The intellect loves history; sad indeed is the city that has destroyed its heritage. Conversation, preservation, and restoration, as well as new building--are necessary to cities.

By far the most immediate appeal of cities is to the senses, particularly sight. A city supplies a rich harvest in imagery: nun's hats, spread like windmills before Amiens Cathedral; baskets of vegetables at Les Halles in Paris; searchlights playing over wartime London; Manhattan under a full moon seen from the air above the Hudson; Bessemer converters setting Pittsburgh's night aglow; the thousand-foot drop to the Urubamba River from Machu Picchu; the sun striking Copacabana Beach. A sophisticated eye records such sights as part of the greater urban vessel--the network of urban spaces. The broad allees in Paris lead to a distant obelisk or Arc de Triomphe. The large enclosed plazas of the Ommayad Mosque in Damascus hold the kneeling worshippers and their rugs. In Rome, the Spanish Steps in graceful point and counterpoint, join hill and valley, high plaza and teeming street. The invitations we receive to move or to remain are a source of the pleasure or displeasure we find in cities.

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In a fine city, special attention is drawn to climaxes, to the gateways, such a ports, terminals, tunnels, bridges, walls and interchanges. Our experience of New York City is quite different if we emerge from a train in the sunless subterranean market beneath Pennsylvania Station rather than vaulting into Manhattan over the George Washington Bridge. Approached from north-east, Philadelphia draws us along rustic drives bordering Wissahickon Creek to boulevards running beside the Schuylkill River, then to the hill at the Art Museum, whence a formal avenue with classical buildings flies like an arrow diagonally across the grid to the City Hall at the heart of the plan. City skylines, too, are distinctive, and the memorable ones like New York's Battery, Florence's dome and campanile, and Istanbul's mosque-crested profile are indelible. What one sees in the spaces, gateways, skylines and groundlines, and waterlines forms the theatre where a great city's people act out their urbanity.

Cities, as John E. Burchard has reminded us, wear distinctive derbies, homburgs, and bowlers and cities also have distinctive sounds. Today, noisy

motor scooters and Cinquecenti serenade Rome where Baroque fountains splashed and Caesars spoke and sacred geese hissed their sentry warnings on the Capitoline Hill. Boats complain as they play the fog-shrouded Thames. Cities have distinctive tongues, so that we know when we have reached Brooklyn, Charleston, or Quebec. We recall muezzins' echoing each other from minarets throughout Istanbul, priests' chanting in Burgos Cathedral Negroes tap dancing on a Charleston sidewalk, the primeval silence of burdened porters climbing the hills in Cuzco. The sound of a city should be as welcome as its sights.

Cities have distinctive fragrances and textures. The acrid pall that hangs over Newark has a trenchant power of recall, as have the odors of fish on Commonwealth Pier in Boston, the camp sour streets in Trastevere, or the fragrant streets where flowers are sold in Athens and very good coffee is ground in Stockholm. Touch recalls the chill of Munich's churches in the Spring, the polished tow of St. Peter's statue in the Vatican. Feet remember the cobblestones of Antwerp, the brick herringbone walks in Boston, the worn steps at Wells. The blast of freezing wind off Lake Michigan into Chicago, the soft mist that cools Lima: such memories are part of the experience of cities.

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City delights are within our making. We need not continue to abandon the city, quitting it for a suburb, leaving it to immigrant populations who are victims of its decay. The major restraint against good city building lies in thoughtless prejudices and the consequent dearth of images of a well-organized, satisfying place where, beyond ease of parking and ease of marketing, the city is cherished because it is a center of justice a center of education and a center of culture. Too few believe that dense, diverse aggregations of people are essential socially and culturally. Yet, if we look past the headlines about urban misery and the television reports of urban crises, we can see that where people do care, some cities are responding to our growing need for satisfying environment.

In Columbus, Indiana, the President of the Cummins Engineering Company decided that his city should improve its public architecture and acquire fine paintings and sculpture for its buildings. He offered to pay the architectural fees of any architects chosen from five or six distinguished candidates selected by a professional panel. The School Board, a church, and a library agreed to the arrangement. Through Mr. J. Irwin Miller's initiative, architecture by Saainen, Pei, Barnes, and others now graces Columbus.

In Atlanta, along Peachtree Street, the new Regency-Hyatt Hotel, with its gaily lighted elevators rising and dropping in the tall lobby, has joined the new cluster of office buildings and stores designed by John Portman.

In New York City last summer, a group of national insurance companies agreed to lend several hundred million dollars to the Government to underwrite the high-risk, low yield mortgages the Federal Housing Authority requires to subsidize public housing.

In August, when cities stood under curfew, one thousand leaders of finance, industry, and labor met in Washington and agreed to a charter. Led by Andrew Heiskell, David Rockefeller, Walter Reuther, Henry Ford, and others, the conference, which was called "The Urban Coalition," sent congress a strong

statement supporting the right to work, the right to a basic income, and the need for improved environment. They pledged themselves to address the problems of poverty directly by finding or developing jobs and organizing educational opportunities for job seekers.

Again in August, in New York City, Roger Stevens, Chairman of the National Council on the Arts, completed a complicated real estate purchase that will convert several large loft buildings into studios and apartments that artists and musicians can rent.

As a result of skillful negotiation by William Hartman, partner in charge of Skidmore, Owings and Merril in Chicago, that city dedicated a colossal statue designed by Picasso, and the work now stands in the new Civic Plaza beside City Hall.

Boston dedicated its new City Hall, the brave and happy result of a national competition.

Not all of the commitment to city building occurred last summer in Montreal. It occurred wherever people loved the city and wanted the city, because it holds a promise of being a work of art, rich in the satisfactions of living.

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ON WHOSE BEHALF IS THE DREAM BEING DREAMT?*

When Max Weber found himself in polemical discussions with his students in Weimar Germany, and they pulled their youth on him, his reply was that what counted was not chronological age but the will to make an exacting analysis, with an unyielding critical intelligence. I would add to that, what really counts is how deeply experience has bitten into you and what you make of that experience.

Mr. Oglesby's impassioned remarks, coming out of his own experience, leave a scar on us all. What interests me particularly is the last part, on political romanticism. We all feel an empathy with romanticism, whether it be that of someone in love, or of someone who has a passionate feeling about social change. But there is a double aspect to collective experience. One has to do with the idea and the fact of power and the role it plays in the reality situation.

It was William James who said that the crucial difference between people was not between rich and poor, or Republicans and Democrats, or liberals and conservatives, or Christians and Jews, or Catholics and Protestants; the crucial difference, he said, is between the tender-minded and the tough-minded. What he meant by the tender-minded was those who shrink from facing the reality principle; by the tough-minded he meant those who are willing to face it. I cannot imagine a society which would exclude the idea and the fact of power. You may transfer power from one group to another; you may decentralize rather than centralize power. But the fact and the idea of power are there, necessarily forming an "Establishment" and a "power structure."

But in addition to the idea of power there is the power of the idea. That too is part of the reality situation. I take it that this conference has called on some of the young people because it is they who are renewing our sense of the power of the idea. They are questioning whether our ideas are today adequate for the purposes of our society.

A full view of power would focus on the point where the idea of power and the power of the idea converge, and it would include both. If we keep both of them in focus, I am willing to accept those who care romantically about the power of the idea. But I must add that if, as a number of scholars have done, you trace the idea of political romanticism all the way back to Rousseau, and then trace it forward to the Nazi thinkers, you may push it finally to the use of the bomb at Hiroshima. Basically the idea of romanticism means the unlimited and unqualified submission to the overarching importance of some idea. If you submit yourself without limits to some overarching idea, you may (as Hannah Arendt has pointed out) end up where the Nazis ended by saying that any means may be used to reach that idea! That is why I welcome Mr. Oglesby's perceptive words about the relationship of means to ends. There is not only the ethos of the purpose, but the ethos of the means, and it is this which may today be even more important than the ethos of the purpose.

There are ample instances of man's inhumanity to man in reaching for goals that stir men's passions. Given the kind of instinctual drives that do operate in our unconscious, we need to care deeply about how those

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instinctual drives are released, and about building some restraints around them. In this sense what ultimately matters very much, whether you're talking about technology or power, is that which can make the exercise of those drives all the more destructive. This is what gives importance to the question of ethos, which is the concern of this conference.

We have been talking, of course, about change. The interesting thing about social change in America is that is has been largely unplanned. The revolutionary changes taking place in our contemporary America have often been unperceived, certainly they have not been controlled, and we confront them now at a more and more accelerated pace. Our task with them is to ride the whirlwind and command the storm. But how? At this point I suggest a series of propositions:

1. That there is no built-in ethos in technology. To be sure there are some technologies that are more dangerous to man and society than others, such as nuclear weapons, "bugging" devices, perhaps data banks. But even about those I would say there is no built-in ethos in the technology itself. The ethos must always be imposed by us in the process of controlling it. Norbert Wiener, whose book on Cybernetics initiated a good deal of our modern automation, was conscious of the kind of consequence that might flow from cybernetics and the computer. He wrote another book, The Human Use of Human Beings, which spoke of how we might turn the new technology to human uses, the kinds of value we might impose upon it.

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2. That it is fruitless to ask whether one is an "optimist" or a "pessimist" about the impact of the new technology. We are not speaking about gyrations of stocks on the market. It is not in our stars but in ourselves that we shape the future used of technology. I am neither an optimist or a pessimist--I am a possibilist. I believe it will be possible to contain some of the consequences of technology as they bear on our instinctual drives. I do not think it is guaranteed.

There may seem to be ample reason to see the dark side of the moon. You remember James Baldwin's The Fire Next Time? It may come in the form of the fire from without--the bomb, or the fire within--the racial tensions and the struggle over the inner city as an environment for man. But in that case it might be better to speak not of the fire within but the ice within. For we are talking of congealed glacial hatreds. I recall Robert Frost's poem:

> Some say the world will end in fire,
> some say in ice.
> From what I've tasted of desire
> I hold with those who favor fire.
> But if I had to perish twice,
> I think I know enough of hate
> to know that for destruction ice
> is also great
> and would suffice.

Caught between fire and ice ahead, we must go on to the existential assumption that the coming years are not going to wipe us out and that humanity will have a future. As a possibilist I feel that if we do not foreclose our options, we have some claim to survival.

3. That here the claims of the young people are crucial. I recall a statement by a friend of mine, Harold Laski, one of the intellectual leaders of the British Labor Party: "When the leaders of a people (he said) ask their followers to die for a dream, those followers have a right to know in whose behalf the dream is being dreamt". He was talking primarily of the disinherited, the poor, the people at the base of the pyramid. Perhaps if he were saying it now, he would also talk of the young. They too, are asking, "In whose behalf is the dream being dreamt?"

It is a valid question. In every society there is a dream, in the sense of a social myth-avision of possibility which, whether false or true, does actually move men to actions and passions. There has been a dream at the heart of the American experience which is being eroded. The question is, how do you renew it?

4. That you do not renew the dream by becoming "true believers," whether in the radical Left or the radical Right, whether in White power or Black power, or in Governor Reagan's idea that we must use our "total technology" in the Vietnam war. You do not resolve it by a conviction that you have a pipeline to God or history. Of course you need commitment, but that is a different dimension of discourse--that of a moral dimension rather than of a political religion. The whole problem of growing up, whether in the family, the school, or the university, is to find the line between authentic critical commitment on the one hand and a true believer fanaticism on the other.

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5. This leads to my fifth proposition, that I don't care about the power structure or the Establishment as such, but I care very much about a society--not just our society, but a society. The social fabric is a delicate thing. It can easily be broken If you don't believe it, think back to what happened in Germany, with a great educational system, a great structure of science, a great technology, a great development of theology, and with a poetry and literature that formed the very heart of the romantic movement in the eighteenth and nineteenth century European intellectual history. Think of what happened to this Germany, to the Germans. The Nazi experience happened to them. It happened exactly because they cared desperately and romantically about creeds and dogmas, like the idea of racism or the transfer of power from a decadent Weimar Republic to something that would be "young" and "energetic". They did not concern themselves about the human connection, the link that ties man to man.

However, I care about fundamental change, and I would like to see governmental power decentralized. I would even call myself an anarchist in the sense that I believe that the crucial, fundamental problem of change may well be the creation of autonomous groups toward which power will be able to devolve from centralized economic bodies, political bodies, educational bodies and all the rest. I believe one of our problems is giantism. One of our problems is the overcentralization of power. But I would say we should be very careful not to resolve those problems by destroying the fabric of the society itself and the connection of man to man.

Let me illustrate what I mean by a personal reference. I wrote a book called America as a Civilization, and finished it about ten years ago. When I wrote the section on the ethnic structure of American society, on the whole pluralistic assemblage of ethnic groups, I spoke of the conflict between them.

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But I added that, more than any other people in history, it could be said of the American experience that all these highly diverse groups had managed thus far to live together without killing each other.

If I were revising that day, a decade later, I could not make that statement again. The fact is that we have been killing each other on the streets, black and white, for no earthly purpose that can be called a purpose or that could square with any meaningful ethos. We have been killing each other because the surface of our civilization has been rubbed away, and the instinctual aggressive drives in both black and white have been uncovered. Each evokes polar response in kind from the other. The enemy is this process of polarizing.

That is why I say we had better tread carefully. This is the house of man, built delicately and laboriously as a habitation for human society. The floor below us, the walls around us, the ceiling above us, they have been built on the freedoms and the human connection which we have striven to contrive over the centuries. Not just in America, but in the whole human history we have striven to tame the deep destructive drives in man. Let us not release them now, simply because of some kind of true-believer fanaticism. The problem is not Black Power any more than it is White Power. The problem is shared power, in an increasingly participatory democracy. The problem is not Black anger or white anger, the problem is human anger and here, too, it is something that menaces all of us.

Finally, the hippies. I think I would draw a sharper distinction than do Mr. Oglesby and Mr. Kahn between two elements of the revolt of our youth. One is the activist and the other the nonactivist. One represents an intense desire for participation in the political process, an effort to effect a transfer of power and shape society in institutional terms closer to our heart's desire. The other represents a withdrawal from active participation entirely. The activist movement with all its intensity is a traditional part of the past, with relatively little break from activist movements like those in the 1930's. The "hippie" movement does contain some new elements that challenge the value structure of American society and indeed of the West. In that sense I take it seriously. I am not impressed by the one tenth of the iceberg that is so highly visible in the Big Media: the curious clothes, the curious ways, the flowers, the beads, the beards. But the nine tenths that is underneath expresses what a large portion of American youth is fumbling toward. It is the rejection of the acquisitive, of the power element, of prestige, and security, of the whole striving for money, of the "rat race." These no longer count as nourishing life purposed for the young. There is a rejection also of the respectability that goes with those values, and indeed of the whole idea of a strenuous life in an achieving society.

In place of these the emphasis is on love. One does not have to take with total seriousness many of the silly and even sick utterances of the hippie extremists, which will prove terribly transient amid the strong currents of history. Yet there has been an authentic breakthrough in the erotic experience. The best way to put it is that young people and some older people as well are beginning to look at the human relations not in power terms but in love terms. I find this hopeful. Freud said that ultimately the human destiny will be determined by the struggle between Eros and Thanatos, between love and death,

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between what is emotionally expressive and creative in us, and what is tight and constricted and thus oriented toward death.

Freud was pessimistic enough to believe that death would win out. My own feeling is that when you have emotional expressiveness there is less danger of the breakout of the instinctual destructive drives. Wars and dictatorships have not come in societies that were tight locked and emotionally expressive, in societies which were in one way or another puritan societies. If we can live expressive lives, we may be able to organize our collective intelligence more effectively than we have done.

In my recent American travels, I find I encounter a question more and more. People ask me, "Up there in space, do you think there is intelligent life up there in space? Do you think we will ever be able to communicate with intelligent life in space?" I answer that it is a fascinating question, but that I have another question of a higher order of priority: Not whether there is intelligent life up there in space, but whether there is intelligent life down here on Earth.

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DON'T WE KNOW ENOUGH TO MAKE BETTER PUBLIC POLICIES?

by
Max Ways

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The quick, impatient answer is yes. But the situations in which policy operates become more complex and uncertain. What we know has to run hard to keep up with what we do -- and vice versa.

People today can do more because they know more. As science keeps adding to the stock of truths, as educational systems and other communication media step up the distribution of knowledge, the scope of individual and collective action widens everywhere in the world.

But not much else is that clear about the way knowledge and action are related in contemporary life. How much is the quality -- as distinguished from the quantity -- of what we do improved by the expansion of what we know? Can knowledge ever become so complete that we will enter a Golden Age where all problems will have answers and everything will be done right? Or is modern society in danger of rattling apart because the progress of knowledge is so uneven in its application to the world of action?

Since current public discussion makes no serious efforts to grapple with such questions, opinion veers wildly from extreme optimism to extreme pessimism. From day to day, we expect either too much or too little from this unique kind of civilization that learns so fast and yet blunders so horribly, that achieves so magnificently and yet seems to leave undone more and more of that which ought to be done. Trite, but deeply significant of our confusion, is the remark that, if man can reach the moon, he ought to be able to solve this, that, or the other mundale problem.

Americans are more deeply involved than any other people in the knowledge-action nexus and, therefore, more bewildered and frustrated by the disappointments it seems to generate. Almost every area of American public policy, from international affairs to crime-in-the-streets, is gnawed by popular anxiety arising from the question of why a nation that knows so much does not handle its affairs better. The flow of information that reaches the President, the Congress, and the people concerning the world outside our borders must be several thousand times greater -- and better -- than it was two generations ago. Yet we blunder. All the instruments of foreign policy -- weapons, economic aid, channels of communication, institutions of cooperation -- have vastly improved, thanks at bottom to what we have recently learned. Yet the international scene that we confront is not less dangerous than it was. At home, data about the U.S. economy multiplies and becomes more precise, while the conceptual apparatus for analyzing it has strengthened even more markedly. Yet we are repeatedly disappointed in our efforts to deal with the interlocked problems of inflation and unemployment. Whole libraries of research are spewed forth annually about the social questions of race, poverty, crime, and urban decay; millions of citizens now know much more than they did about these matters. Yet policy results are, to say the least, unsatisfactory. Without our expanded knowledge we would not be able to foul up the physical environment as we do. Yet when we turn to straightening out the mess, we never seem to know enough.

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Three Levels of Distrust

Popular reaction to these frustrations falls into three groups. Most extreme and conspicuous is the one that says, "A nation that knows so much must be very evil to do no better than we are doing." Some in this group try to escape the guilt by turning their backs upon a society characterized by rational inquiry linked to purposive action. Hippie communes, drug taking, the admiration for Oriental passivity and occult lore are obvious examples of this tendency. Many sensitive and enraged young people blame knowledge for corrupting action. The natural sciences are denounced for pandering to gross materialism. The social sciences are even more scathingly indicted as mental fetters forged by an oppressive Establishment to repress the spontaneous job and harmony of instinctual life. In this attitude there is a yearning for cleaning and drastic action, freed from the pale cast of thought. The word "revolution," never so popular before, is in its current usage sentimental in the most contemptible sense; "revolution" now simply expresses a petulant wish that some thunderclap of social action will clear the air, discharging tensions built up around the guilty belief that we have used our knowledge badly or, alternatively, that our knowledge has debased us.

Less conspicuous but more worrisome is the reaction of the partial dropouts. Many successful men who wear ties, own boats, prefer J. & B. to LSD, and occupy the chairs of corporation executive or professor are riddled with doubt about the validity of their own careers and of the society in which they play leading roles. They want to retard the pace of what they regard as "the rat race." While retaining their respect for knowledge, some of these want to see the rate of society's action (as measured, for instance, by the gross national product) slowed down until such time as knowledge, catching up, can ensure a higher quality of performance.

The vast majority of Americans, however, are neither self-proclaimed revolutionaries nor crypto-dropouts. The members of this third group are puzzled and made insecure by the seemingly shameful discrepancy between what we know and the quality of what we do. They come to regard policy makers, including those for whom they voted, as antiheroes, stumbling inadequately from one challenge to another. Experts too are distrusted for what appears to be repeated failure to understand events in their fields of special competence. People lose confidence not only in their leaders and teachers but in themselves.

This crisis of confidence, a product of all the accumulated disappointments, is a much graver danger than any particular failure of U.S. society in action. Our worst disease is the idea that this is "a sick society." Faith in democracy in recent years has depended too heavily on the horrible examples presented by rival systems. To concede that some societies are sicker than ours will not instill enough confidence to sustain effective democratic vigor. In short, the knowledge-action mystery now undermines the assumptions on which self-government rests.

When Expectations Can't Be Met

The trouble extends far beyond politics. In every sector of contemporary life, disappointment is sharpened whenever knowledge falls short of mastering events. Business management is -- and must be -- more and more loaded with costly expertise. When markets suddenly shrivel, when quality control slips,

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when R. & D. aborts at some point short of profits, indignant stockholders want to know why all the expensive knowledge did not forestall failure.

Our admiration for the advances of medical science turns into bitter recrimination (and sometimes into lawsuits) when patients die of causes still far beyond the reach of medical skill. Such pressure might be viewed as spurring medicine on toward further discovery and better performance. Its more immediate and potent effect is to create distrust where there should be trust, and to demoralize a profession that knows it cannot meet the expectations of those it serves.

Another example: child care is enlightened by more knowledge than it used to have -- with the result that those parents who rear a neurotic child are automatically blamed (and blame themselves) as if the neighborhood library held ready recipes on how neuroses can be infallibly averted. The higher level of expectation leads many parents to approach child rearing with such trepidation -- or such soaring goals -- that their performance may be worse than it would have been if nothing new about the parent-child relationship had been learned in the last hundred years.

It is right, of course, that standards of what we demand of ourselves and of others and of our society should rise as knowledge rises. But when expectations consistently outdistance performance, we ought to re-examine our motions of how much practical improvement should reasonably be anticipated from the advance of knowledge. Possibly a tendency to expect too much from knowledge produces, in its disappointment, much of the guilt, cynicism, and bitterness that now discolor private and public life in the U.S.

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The Heavenly Hangover

For more than two centuries Western culture has been conscious of an accelerating enlightenment. For much of that period, and especially in the latter half of the nineteenth century, this advance kindled a boastful optimism that science and education would gradually solve all practical problems. This utopian view of progress-through-knowledge is commonly supposed to have been demolished by the outbreak of World War I.

But perhaps this vision did not die in Flanders. Perhaps it crept home -- furtive, maimed, disfigured -- and still lives among the half-hidden assumptions through which we perceive the action of our time. Every now and then a voice is heard explicitly repeating the utopian promise in accents not very different from those of sixty years ago. If we listen carefully to one of these utopian statements we may begin to understand how we have been promising ourselves more than we can deliver.

A few months ago Dr. Bentley Glass, in his address as retiring president of the American Association for the Advancement of Science, denied the conventional view that science pursued "endless horizons," in Dr. Vannevar Bush's phrase. On the contrary, Dr. Glass said, the rate of discovery may already be slowing down for the cheerful reason that science is exhausting the unknown. The universe, he argued, is finite or, at least, "the laws of life, based on similarities, are finite in number and comprehensible to us in the main even now." Dr. Glass a biologist, conceded his science is still far from knowing all about any single species. But the life sciences now have so much knowledge in hand or in prospect

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that basic understanding of the genetics, structure, and behavior of living things did not seem far away. As he put it, "a total knowledge of all live forms is only about 2×10^6 times the potential knowledge about any one of them." Two million is a large but finite number, and since much of what is learned about one species may be applicable to many others, the life sciences could foresee their own completion to the point where no frontiers lie ahead.

He went a giant step beyond even this ambitious dream. From the expected scientific triumph he inferred a fundamental change in the realm of action. Mankind, he said, would enter "a Golden Age." By this he meant not merely a better age or an age more spacious for choice; he meant a utopia, a condition where problems and progress and history cease.

Probably not many of the distinguished scientists who heard Dr. Glass fully share his expectation. But his audience did not break out laughing nor rise in disagreement. Press reports of his address have provoked no major controversy, an indication that such utopian visions may run underground through the contemporary psyche. Dr. Glass was merely making explicit an optimism about knowledge and life that many people vaguely share -- part of the time. When these hopes are thwarted by the course of events, the same people, swinging to pessimism, believe that today's world is headed for hell in a hand basket.

But was the utopian vision worth trusting in the first place? How can science at any point in its progress have a scientific basis for assessing the extent of all that it does not yet know? Don't speculations like those of Dr. Glass smack of a medieval mode of thought, alien to the essential spirit and procedures of modern science? When a medieval mind speculated that creation was finite, it also posited a Creator who was infinite; its idea of a Golden Age rested not on man's total intellectual conquest of the finite, but on his participation through salvation in the Infinite. "Scientific" utopias smuggle the idea of heaven back into a worldly context where it does not fit -- where, indeed, it may act as a poisonous stimulant, preparing the hangover of disillusionment and disgust.

There is considerable evidence that the more we learn the more we need to know. Few scientists think they are running out of questions. And it is the common observation of nonscientists that society in action faces more "problems" now than it did fifty years ago. Nobody can be sure, of course, that the generation of new questions and new problems will continue to accelerate forever. On the other hand, nobody can foretell the limits, if any, at which the multiplication of questions and problems must stop.

The awful truth seems to be that as knowledge advances ignorance does not diminish. If contemporary man does not learn to live with this paradox he will come to despise both his knowledge and his practical achievements, which are the first made possible by knowledge and which then put him in the position of needing more knowledge than he has. Any new need for knowledge, any field of ignorance of which we are made aware, may prove more difficult to overcome than the vanquished ignorance from whose carcass it grew. In this fundamental and also highly practical sense, the pursuit of knowledge is not a "finite" activity. The hunt flushes the quarry, hitherto unseen, and the quarry sustains the hunter -- if he's lucky.

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A Touch of the Old Adam

For a generation the U.S. has been struggling to shape national policies toward the linked objectives of growth, full employment, and a stable price level. Again and again, success was confidently proclaimed. As recently as the mid-Sixties, management of the national economic framework by Washington was widely deemed to have passed beyond crude repairs into the rarefied realm of "fine-tuning." The late Sixties, however, brought another round of disillusionment. Last year saw a high rate of inflation, a high rate of unemployment, and no growth -- a combination that had been considered improbable under almost any set of policies.

From repeated flaws in forecasting the impact of policy on economic life should we conclude that economics, the strongest of the social sciences, has learned nothing in these areas where it has concentrated so large a part of its recent effort? Are the laws of this science chimerical? If not, why were they so imperfectly validated in action?

The difficulty lies at the root of economic science -- and, by analogy, at the root of any science when it is applied to the world of raw and total phenomena. Science, selecting what looks promising for study, begins its task of discovery by pretending to see less than it does. Much of what has been put aside by a science continues to affect the actual world. Later, science as applied to action may be ambushed by the unselected facts it left behind.

Adam Smith understood quite well that man was not a simple mechanism motivated solely by the desire to maximize his material self-interest. Indeed, Smith's "other book," The Theory of Moral Sentiments, deals with many of those human motivations that he systematically excluded from The Wealth of Nations. But by proceeding as if economic man, a fictional construct in Smith's head, represented actual flesh-and-blood men, Smith was able to found the science of economics. Without the gross oversimplification on which it is based, economics, bogged down in the complexities of actual human behavior, could hardly have got off the ground.

The Wild Cards Multiply

Upon the soft footing of a useful fiction rose a tremendous body of sophisticated economic knowledge whose propositions are very firm -- as far as they go. But they do not claim to go as far as many people suppose they do. Even when applied to a primitive society, the science of economics does not begin to cover the range of activities that the layman thinks of as economic life. In that sphere men act on incomplete information and are impelled by complex and obscure motives that economic science, restricted by its basic oversimplifications, never tried to analyze.

Nor does much help come from other sciences. Psychology's attention to business behavior and motives has not been deep or brilliantly fruitful, for psychology, following its own (doubtless valid) patterns of selection and emphasis, has been more interested in the bedroom and the nursery than in the marketplace.

While economic science was advancing, the actual world of economic activity was not standing still, waiting to have its picture taken through an improved lens. Economic science has been an indispensable ingredient in the tremendous changes that have occurred and are still occurring in actual life. But these

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new situations are more complex than the old. They are harder to analyze and predict by a scientific method that does not deal firmly with most of the psychological factors or the "moral sentiments."

An economic model that pays little heed to human psychology might describe well enough an economy where most people lived on the edge of necessity, where the objects traded were few and familiar, where the patterns of work were fixed, and where most trading was on a cash basis. In that situation, many regularities or "laws" could be considered as "determining" behavior. The responses of the actors were then much easier to predict than in our present economy where producers and consumers have a wider and freer range of choice, where purchases can be speeded up or postponed, where the interventions of government drastically affect the market, where investment decisions by millions of people, where credit -- with its psychological components of confidence and fear -- is the pervasive medium of exchange.

There is no real doubt that the propositions of economic science are true and that they are refined and extended every year. The question is whether economics (plus all other knowledge that can be brought to bear on the business scene) improves as fast as the scene itself moves toward greater complexity and undetermined freedom. The control of inflation, for instance, may still in its scientific essence depend on whether the money supply grows faster than productive capacity. But the actual rate of inflation can be affected (at least in the short run) by such factors as how much inflation people expect. Their expectations, in turn, will depend on mental, emotional, and cultural conditions that are hard to measure and interpret.

Those charged with responsibility for predicting the consequences of government economic policies must make judgments about what Congress will do with the defense budget, about how the rank and file of labor unions will react to higher taxes and to jawboning on exorbitant wage increases, about how much unemployment will be acceptable under changing standards of social justice, about how investors will be affected by tensions in the Middle East or on U.S. campuses. Such judgments, noneconomic and nonscientific, do not fit easily into a model designed to explain ongoing business life primarily by the determined regularities of economic science.

That is why forecasting the level of business activity or assessing the future impact of government policy has not become easier or more successful, despite the advances of economic science. The wild cards multiply even as economists raise their skill in dealing with the determinable elements.

The Temptation Toward Simplicity

This continuing -- and perhaps increasing -- uncertainty is not always reflected in the way economists and policy makers talk about the future. The listening public wants and expects a high degree of certainty. Forecasts freighted with ifs, buts, and maybes would be disregarded. Leaders are supposed to sound confident.

If a President of the United States gives the impression that he is highly doubtful about whether inflation is under control, his caution may further stimulate the fear of inflation. Such fear itself can have (though it will not necessarily have) an inflationary influence. On the other hand, if a President sticks

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his neck out and sounds more confident than his knowledge warrants, then many people who believe him may be in for another sickening round of disillusionment.

In recent weeks President Nixon and his economic advisers have adopted a more confident tone about this year's growth, unemployment, and inflation than most private forecasters believe is justified. For the first time, a precise estimate of the gross national product -- "ten sixty-five and all that" -- is bandied about in the public discussion. The point here is not to argue for some higher or lower estimate. The point is to doubt the wisdom of such specious exactitude. If the figure proves far wrong, there will be another spate of talk about stupid government blundering. If the ten sixty-five figure proves right, we may see a new round of public overconfidence in Washington's ability to forecast the economy.

Nixon's present economic policies rely heavily on the analysis of Arthur Laffer, a thirty-year-old economist on leave from the University of Chicago. Laffer's economic model may not prove superior to others, but it is surely simpler. In estimating where the economy will be a year from now, he uses only four indicators: federal spending, interest rates, stock prices, and the rate of expansion of the money supply. Most people who bet on horse races use more elaborate analytical models than that -- and the U.S. economy is considerably more complex and less determinable than a horse race.

A Long Way From Assisi

Last December, in a remarkable farewell speech as he left the White House where he had been coping with urban problems, Daniel Patrick Moynihan recalled the warning of the Swiss historian, Jacob Burckhardt, who foresaw that the twentieth century would be the age of "the great simplifiers" and that "the essence of tyranny would be the denial of complexity." Moynihan called the tendency to oversimplify "the single great temptation of our time" and "the great corrupter." He said that "what we need are great complexifiers, men who will not only seek to understand what it is they are about, but who will also dare to share that understanding with those for whom they act." Refusal to admit the genuine intellectual difficulties of policy formation in the contemporary world brings with it "the moralistic style" and the public tendency to lurch "from crisis to crisis with the attention span of a five-year-old."

Moynihan's point can be illustrated in a field where he was directly concerned, the effort to improve the welfare system. The system would not exist if the moral standards of the society had not risen to the point where the majority accepted responsibility for the material subsistence of the poor. Today the system is widely regarded as unsatisfactory. Consensus on this has formed not because the public heart has hardened, but because welfare's cost seems to be out of line with the amount of visible good it is doing for relief recipients.

This last standard is a rather modern development. At the time when St. Francis impulsively gave his fine clothes to a beggar, nobody seems to have been very interested in what happened to the beggar. Was he rehabilitated? Did he open a small business? Or was he to be found next day, naked again, in an Assisi gutter, having traded the clothes for a flagon of Orvieto? These were not the sorts of questions that engaged the medieval mind. The twentieth century has developed a more ambitious definition of what it means to help somebody. We are

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used to getting action -- and we want better results than the welfare system has been producing. We are bothered by the possibility that the present system may be actually hurting a lot of welfare recipients.

From one point of view, the charitable impulse has become less pure. Spontaneity has been lost along with the warmth generated in the hearts of donors. From another viewpoint, this change represents a strengthening of the moral impulse, which is now more intent on benefits to the donees.

But the impulse of charity, however strong, will not of itself optimize the recipients' benefits. To do that requires knowledge upon which the consequences of assistance can be predicted. We need, for instance, more certain knowledge than we have ready to hand about the causes of poverty, about how different economic incentives and pressures will operate on different groups of people in different parts of the country, about the long-range impact of different forms of assistance on family structure. Lucky St. Francis whose century had not advanced to confrontation with these formidable areas of ignorance!

Moynihan and others, after exploring these uncertainties, proposed a set of basic changes in public-assistance policy. Nobody knows for sure that the new proposal, called the Family Assistance Plan (F.A.P.), will work better than the system we now have. Even if the new plan were put into effect, it might take many years to get a firm evaluation of it -- and by then the situation of the poor and the public's standards may both have shifted.

Such, however, is the inescapable context of all policy making in a truly complex and rapidly changing society. Either we accept the framework of acting on the basis of very incomplete knowledge or else we condemn ourselves to retaining unchanged those institutions, like the present welfare system, for which we have lost respect.

In the months during which welfare reform has been bogged down in Congress there has not been much public interest in the intricacies of the plan's possible effects. Instead, the public still gets from the press a plethora of local atrocity stories about the present setup, implying that any fool could design a better welfare program.

A "moralistic style," deplored by Moynihan, continues to dominate the discussion of welfare. Some of the simplifiers are dead certain that present welfare eligibility rules are unduly restrictive because taxpayers are too stingy. Other simplifiers are equally certain that thousands of freeloaders could be thrown off the relief rolls if officials were not culpable wasters of public money.

Delay in this and many other efforts to form better policies is often ascribed to conservatism, simple resistance to change. But there is a new kind of inertia in modern society. Casting about for a higher degree of certainty, pulbic opinion delays its choice among the many uncertain courses offered.

Supersalesmanship and "bold" promises are often needed to overcome the new inertia. President Nixon's 1970 support of F.A.P. was hedged with such commendable caution that some observers called him lukewarm toward it. For instance, he said a year ago, "While I cannot guarantee that the new Family Assistance Program will work, I know that the present welfare program won't work." Now, to break the

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long stalemate in Congress, he may be tempted toward reckless predictions, going further than the state of information warrants, about how effective the new program will be. If F.A.P. disappoints inflated promises, the result will be further public pessimism and disgust.

"Caitiff, We Hate Thee"

Nothing is more demoralizing than the belief that today's high-knowledge society has "forgotten" how to do something that our ancestors did well. The prime exhibit here is crime and punishment, or law enforcement.

Suppose we were sure, which we are not, that the methods used in bygone times had held the incidence of crime far below the present level. Would that tell us much about how to deal with crime in this very different kind of society? We have learned much -- but not nearly enough -- about what causes criminal behavior. In the light of the new knowledge we assign some responsibility for crime to factors outside the conscience of the criminal. When we say (correctly) that the conditions of society affect the incidence of crime, we undermine to some extent the moral confidence with which former centuries condemned the guilty.

A judge in those days might speak the way he imagined God would sound on Judgment Day. Consider Thomas Carlyle's version of a death sentence expressing universal moral law: "Caitiff, we hate thee . . . Not with a diabolic, but with a divine hatred . . . As a palpable deserter . . . against the whole Universe and its laws . . . we . . . solemnly expel thee from our community, and will, in the name of God, not with joy and exultation, but with sorrow stern as they own, hang thee on Wednesday next . . ." Such an utterance in an American court today would make the caitiff laugh all the way to the Supreme Court.

The old way of dealing with crime has been superseded, not forgotten. The new way includes a greatly increased respect for the rights of accused persons. It includes ambitious new goals of reforming those convicted. Moreover, it includes a desire to alter social conditions that predispose to crime.

All three changes, praiseworthy in themselves, confront us with new practical difficulties that we don't yet know how to ovecome. Now that the courts restrict police methods in obtaining confessions, the task of gathering information that will stand up in court has become harder. The art of detection does not necessarily improve as fast as the burden on it increases.

There have been many experiments in the reform of prisoners and much has been learned. But the progress of knowledge applicable to the new goal lags behind the rate of which the remnants of the old methods lose their efficacy. We are now operating with a mixed system that works badly as a penal deterrent to crime and even worse as a reforming therapy.

Correcting the social conditions that foster crime will require tremendous accretions of knowledge that are not yet in sight. Hopes turn toward improving the quality of family life, of schooling, and of other communication media that shape the attitudes of the young. But experts in these fields disagree -- passionately. Firm, believable predictions of what behavioral results will follow from given social changes are hard to find.

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No simple and immediate solution to our crime problem is in prospect: not in some "forgotten" knowledge of the past; not in the present state of social science. Until we accept that, we won't mobilize the sustained social energy required to make some headway against the complex and long-range problems posed by crime.

The Agenda of Discovery

The technological processes and products that befoul the environment are obviously dependent on secretly acquired knowledge. But when we seek to correct our ecological atrocities, we often find that we lack needed kinds of knowledge -- chemical, biological, economic, behavioral.

A fallacious assumption appears at this point: it holds that a society automatically gets the kind of knowledge it really wants and deserves -- that if, for example, Americans really cared about one another's health, they would long since have found out how to keep the air and rivers of an industrial society clean. This way of thinking substitutes a simple, easy moralistic judgment for what is in fact a novel and difficult set of knowledge-action challenges. And the insistent imputation of guilt, which is supposed to lead us into environmental repentance, may have the actual effect of sapping the energies required for practical reform.

The belief that modern society can readily order up whatever kind of knowledge it "really wants" is part of the utopian illusion. Not much is known about the process by which science sets its priorities. The main determinants of the agenda of discovery appear to be internal to each science. The felt needs of society, even when expressed in huge public appropriations for research, seem to be secondary, though sometimes important, influences on the course of discovery.

This is the case partly because science is -- and should remain -- free of direct social control, and partly because science is organized by specialization whereas many knowledge needs of society present themselves as transdisciplinary problems. Many scientists are unwilling to drop their fruitful specialized research and commit their careers to the bewildering complexities of transdisciplinary attack on the new areas of ignorance disclosed by the environmental challenge.

The task is not hopeless. Public policies can be developed to speed up the growth of knowledge relevant to the environment -- and this can be done without destroying the freedom and the specialized organization of research. Then, by education, law, technical invention, and business innovation this knowledge can be translated into action. But the process will not be quick. It cannot achieve a complete triumph, a Golden Age. For by the time we have eliminated present environmental evils we will have developed some new ones, either because novel forms of action will produce environmentally undesirable byproducts, or because we will have raised -- again -- our standards of what is acceptable.

Intelligence by the Ton

The public-policy area that provokes most anxiety is that of foreign affairs. The knowledge base on which U.S. foreign policies are formed includes the most massive and expert-loaded intelligence service the world has ever seen. It can channel information by the ton to policy makers. The academic community, not much interested before World War II in current information about other countries, now

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has many centers for the deep study of foreign affairs. American business has a vast new network for processing information from abroad. And the general public, through press and electronic media, is given a detailed and direct (if somewhat oddly stressed) view of the world. All this, however, does not imply any gain in the adequacy of available knowledge for the tasks of policy formation.

Consider what else has changed. A few generations ago the aims of U.S. foreign policy were clear and relatively modest: to be let alone; to protect and foster certain "national interests," conceived in a definite and tangible way (e.g., the Panama Canal); to serve the world as an example of (and sometimes as a preceptor on) the virtues of progressive democracy. In those days the U.S. knew enough to pursue its limited foreign aims with self-respect and a reasonable degree of success.

Our present aims are much more difficult to formulate. They are larger and, in some obscure but real sense, "higher." We have painfully learned the need for a stronger international order; the U.S. has a responsibility for contributing to its construction. In relation to that goal, specific national interests, while still important, are subordinate. But this higher aim, itself the product of evolving knowledge, does not come ready packaged with a kit that tells what we need to know for its practical pursuit.

Meanwhile, the field of action in which foreign policy operates has become much more complex. There are more nations and every one of them "counts" in some situation or other. The aims of these other nations, too, have become more complex and harder to read. In any nation, including the dictatorships, the public opinion that shapes policy is a broader, more heterogeneous, and less predictable element than it used to be. This increased complexity in the world of international affairs is itself a consequence of the spread of knowledge -- and at point after point this world confronts the U.S. with a new field of action in which we find ourselves ignorant relative to the requirements.

The sad story of the U.S. in Vietnam can be seen as three failures of knowledge, three miscalculations: (1) Washington miscalculated how much military punishment the Vietcong and Hanoi would take before quitting; (2) it miscalculated how much help Saigon would need before consolidating its own jurisdiction; (3) it miscalculated the level of casualties and cost that U.S. public opinion would tolerate. These three knowledge areas, each difficult, have complex interaction with one another (e.g., Hanoi's will to persist and the U.S. public's will to persist are not fully independent variables).

More Humble and More Resolute

The U.S. can and must do a better job of selecting specific lines of knowledge to be emphasized and specific lines of action on which to concentrate. But no hope lies in retarding the general pace of either knowledge or action, for each makes inescapable new demands on the other. No hope lies in the rancorous moralism, the false certitude, the arrogant simplifications that characterize so much of the current public discussion. The real complexities of our present and future call for a public temper both more humble and more resolute.

This is, of course, a very different vision from Dr. Bentley Glass's Golden Age, based on the definitive triumph of science. Dr. Glass, indeed, perceived a

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flaw in his own paradise. "Man requires," he said, "a challenge and a quest if he is to avoid boredom. The Golden Age toward which we move will soon look tawdry if we no longer see endless horizons. We must, then, seek a change within man himself. As he acquires more fully the power to control his own genotype and to direct the course of his own evolution, he must produce a Man who can transcend his present nature . . . Perhaps the Golden Age of no progress will be but a passing phase and history may resume."

But even without the prospect of a Golden Stasis, even without waiting for the biological technique that will enable him to alter his genotype, man is more and more deeply involved in responsibility for changing himself, for influencing his own social and moral evolution. This is what the knowledge-action spiral is all about.

As the first Adam discovered, the pursuit of knowledge is a risky enterprise. Curiosity may indeed kill more than the cat. But if, as Dr. Glass well says, "man requires a challenge and a quest" the supply of those commodities, at least, seems to be indefinitely assured.

Fortune, April, 1971. p. 64

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Michael Hugo-Brunt*

This British colony today covers 398 square miles. The capital, Victoria, on Hong Kong Island and the industrial city of Kowloon on the mainland, are the largest urban areas. Together they cover 12 square miles and overlook each other from the opposing coast lines of the large natural harbour. There are several market towns, Tsun, Wan, Taipo, Shatan and Yuen Long in the New Territories as well as several smaller centres on the island at Aberdeen, Stanley, Repulse Bay and Shekko. These are either resort areas or fishing villages.

Hong Kong is an industrial, tourist, administrative and educational centre. It is also a free port, a military base and transportation terminal; it is an exchange mart between China and the West and might be described as a "Western listening post" on the China coast. The trading centre also functioned as the Far Eastern base for the Royal Navy prior to 1941. Since 1945 refugees, industries, American fleets, shipping lines and airways have stimulated such growth that the British have had to struggle to sustain the growing population.

The population, now numbering almost 4 million, is continuing to increase by an influx of refugees from Communist China. In 1971 it will rise to be 4.8 million and, if present growth rates continue will be 7.4 million in 1981. The majority of the inhabitants are Kwantung Chinese; the British number a mere 15,000, but there are 5,000 other Europeans. Gross densities are high: Hong Kong Island, with an area of 2 square miles, has 3,900 persons per acre, while Kowloon covering 3 square miles has 2,250 persons per acre. Over 93.6 per cent of the population live in urban areas; most of the 1,579,825 inhabitants of the New Territories reside in small market towns.

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THE ABERCROMBIE REPORT

In 1947-48 it seemed as if there might be a "New Jerusalem" in the colony's muddled planning history when the Hong Kong Government requested Sir Patric Abercrombie, who had done the trailbreaking greater London Plan of 1943, to prepare a preliminary Town Planning Report, which was "to provide a land use pattern for future development." His recommendations, which included a Master Plan, were not implemented because the government maintained that it was committed to the immediate problems of housing and industry - presumably this precluded planning. Abercrombie suggested that a series of immediate projects be undertaken of ten years duration in conjunction with a long range policy involving a fifty-year phase. He also discerned the need for urban space and the implications of population increase.

The detailed proposals concentrated upon (1) The improvement of maritime facilities, (2) The determination of a maximum population limit, (3) Housing density and distribution standards, (4) New shopping and industrial areas, (5) Road improvement, (6) A Victoria-Kowloon tunnel, (7) The removal of Defense Establishments from the central area, (8) Open spaces, (9) The tourist industry, (10) The administrative, business and commercial functions of the cities, (11) The appointment of a Town Planning Officer and Planning Office.

The recommendations were rejected. A planning officer was later appointed who produced a zoning ordinance, but his efforts were hampered by lack of statistical data and departmental policies. Abercrombie's analysis has proved sound; maritime installations have been improved, tourism has blossomed while the population increase has spurred extensive industrial expansion. The urgent demands for housing between 1947-1957 finally spawned a housing authority.

Between 1947-65 it was government practice to engage consultants for particular developments, but although the need for planning specialists was apparent, and many were available, none were ever used. Hong Kong has thrived and prospered without systematic planning for two decades, although crucial decisions have been made and extensive developments completed. Finally the government decided recently to implement the Abercrombie recommendations, now eighteen years old.

HOUSING

Sixty-four percent of the present housing stock was erected before World War II and over 62 percent of it is subject to rental controls. Only 16.6 percent accommodates the owners, but their buildings have often been renovated. Over 1,000 new buildings are constructed each year; most of these are multi-storied apartments ranging from eight to twenty floors in height.

Private houses and apartments are frequently speculative buildings the rents of which vary -- depending upon the degree of luxury-from Hk$400[1] to HK$3,500 per month. The speculator leased and erects a multi-storied apartment. His prospective tenants pay him "key money" to be able to get an apartment and

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1 There are about 5 HK $ in 1 U.S. $.

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this may be in the region of from HK$500 to HK$3,000. Thus, the entrepreneur before he has completed the building has already received some return on his principal which he expects to be paid with interest in five to seven years. He frequently borrows most of the money using the building as collateral.

A line of hills, known as "The Peak," form a backdrop to Victoria, and there is also an escarpment behind Kowloon. Luxury Apartments and housing of a suburban character concentrate in these areas which accommodate middle and upper income groups. Most buildings are subject to the 1955 Building Ordinance and Regulations, which restricts any structure exceeding five stories, but since accommodation is at a premium this has not been stringently observed. Since 1956 zoning schedules permit more intensive development and encourage the erection of multi-storied buildings.

A suburban coverage scale reduces ground coverage when buildings are higher: the plot ratio varies from 1.65 for three floors to 5 for twenty floors, i.e. the maximum building height. The maximum plot ratio is 6 and building lines must be observed in most cases.

The 1963 Regulations permitted maximum plot ratios of 10 for domestic constructions and 15 for non-domestic constructions--as well as 100 percent ground coverage up to five stories in non-domestic buildings. Sixty-six percent coverage was permitted for domestic buildings. Open space controls apply for buildings on a street lot, a corner lot and on an island lot. If, however, a developer sets his building back at the ground level and preserves frontage for public use, he may increase his maximum floor area by five times the designated area, nor does he need to conform to building lines.

New Territories' properties are classified as either agricultural or building lands. There is no restriction on the erection of a house of less than 700 square feet in area and 25 feet in height on private property. The owners of the new town development areas surrender their land to the government in return for leases which terminate at the cessation of the British lease. A developer pays the difference between the agricultural and new use value. In all development areas 3 square feet of public land are allocated for services, schools, roads and open space to every 2 square feet of private land.

Most recent speculative buildings have been built in Victoria or Kowloon, but a new phase of speculation may be anticipated in new development areas. Co-operative or condominium ownership, the selling of individual apartments has also been introduced. Thus, there can be between three hundred to four hundred separate owners in a single building.

THE TENEMENTS

Notwithstanding extensive housing building activity and demolition, the better buildings are civic, industrial or commercial. There is perpetual housing shortage due to a natural increase of 75,000 births annually and the continuing influx of refugees. Numerous residents live in overcrowded and unhealthy tenements which are devoid of services, but do provide needed shelter. Many, despite a Rents Restriction Act, cannot compete in the open market for

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better accommodation. The authorities believe that over 600,000 people remain to be rehoused. It is policy, therefore, to utilize every available dwelling.

The typical brick tenements are adaptation of those used in England during the 1888's. They copied the 1875 Bylaw tunned-back row plans having two or three rooms per floor. Party walls support a staircase unless there is a special well between the ground floor shops. An arcade covers the sidewalk and leads to open-fronted shops with sliding, folding doors or removable screens. The upper residential floors are lit and ventilated on the street and rear facades. Walled backyards are standard. The ground floor and the basement are built of local granite, while upper stories are made of rendered brick and are whitewashed or painted. The flat canton tile roofs are used for recreation, small animal housing or washing. Timber or cast iron verandahs overlook the streets. Over the years most have been enclosed with "Portuguese" shutters, casements or bamboo sun blinds. Bamboo drying poles are also suspended from windows or verandahs, which contrast with vertical shop signs set against the facades.

The first tenements were built by local contractors and craftsmen under the direction of English surveyors. They had unified facades and sheltered the pedestrian from both rain and sun. The wide cast-iron or terra cotta gutters were characteristic features where the thick walls, high ceilings and large windows which provided cross ventilation and kept rooms cool. As buildings they were virtually noncombustible, but their sanitary facilities and water supply were hopelessly inadequate despite the communal taps, pumps or washhouses which were provided by some speculators.

Corporations or individuals commissioned "designer builders" to erect the tenements and occasionally approved by syllistic revival embellishment such as column capitals, bases, pediments, string courses cornices, and window surrounds. Even today they will retain many excellent features when compared to some of the new air conditioned apartments.

Victorian architecture and civic design preserved contiguity, height, tone, color and texture control along streets, unconsciously directing the visitor towards the civic or administrative monuments or the open spaces and markets. The tenement, when associated with the gridiron plan, made the most economic use of land. It was only after the wars that the pedestrian street was endangered by the automobile. Such tenements were erected as late as 1927--probably because they afforded high returns on investment.

The surviving tenements contribute much to the indigenous character of Hong Kong although most should be classified as overcrowded "slums". They provide much needed low rental commercial and residential accommodation and are extensively used by gold-silversmiths, jewellers, rattan workers, coffin, furniture and chest makers or antique dealers. Others accommodate Chinese food and tea shops and yet others are leased to business corporations, professional specialists or merchants. Those blocks in primary locations have been modified and adapted for these purposed, but the majority remain residential.

In 1956-57 two residential surveys of 1912 tenements were carried out by architectural students of the University of Hong Kong.[2] Typical four-floor

[2] Under the direction of the author, then a Senior Lecturer in Architecture (1952-59) at the university.

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tenements were selected in Kowloon between Kansu Street, Temple Street and Shanghai Street. The results were revealing and were later confirmed, to some extent, by the Maunder-Szczepanik survey of 1957.

It was discovered that 3,200 persons lived in a 19 unit tenement covering 49,400 square feet. The average household consisted of 4.7 persons. This was an average of 11.8 persons on each floor of a unit. However, some units had as many as 81 persons. Over 97 percent of the households shared their premises, while 50 percent of the remainder had one room and 29 percent 3 rooms. About a quarter of the shared premises had four or more households, but most average between two to three families. There was acute overcrowding: only one water closet was available per unit, and there were no washing facilities.

Sub-tenants erected partitions on each floor, but though deprived of light these provided families with a unified space for living. Five percent of the families inhabited verandahs and yet another 5 percent cocklofts. Only 8 percent possesses areas not used for sleeping. The cooking area was communal and contained the ubiquitous Chinese stoves.

The landlord of this tenement received a gross rent of HK$1,120 per month. His tenants paid him HK$210 per month for a floor. These were then partitioned and rented by the tenant for HK$13 to HK$18 per cubicle. Some premises rented as low as HK$10 while others as high as HK$36. The ground floor shops were rented by carpenters, hairdressers, Chinese herbalist, eating houses, haberdashers, rattan workers, jewellers, furniture makers and goldsmiths for between HK$150 to HK$600 -- an average of HK$233. These rents were set by the landlord, who based the rental upon a percentage of the estimated turnover; individual variations were considerable.

Bed space was frequently rented by sub-tenants on night shift to outside persons or friends for between HK$5 to HK$50. The rental was higher for a landing or a verandah and lower for space under stairs on roofs, in passages or circulating areas.

There were 5 adult males, 6 adult females, 5.5 male and 4 female children on each floor and these included four married couples. One hundred and twenty-five children attended government or government aided schools within a mile of each block. Private schools absorbed another 12. In the area at least 290 more children were either infants or those who could not attend school because their parents could not afford the fees. The average monthly income of the household was HK$175 with two or three wage-earners, but a small minority had incomes which ranged between HK$600 to HK$6,000.

GOVERNMENT HOUSING

Governmental and institutional housing is erected for expatriate civil service officers. The rents are low, since an apartment is deemed a fringe benefit, and the accommodation standards vary according to status, income and race. The government also assists other organizations by granting beneficial leases or even waiving some holding restrictions if this will encourage them to resolve accommodation problems for their personnel. The administration

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erects its own staff apartments, which may be used in emergencies as communication centres or hospitals. Both point or irregular blocks (emulating those of the New English towns) have been built. The materials, while not luxurious, are excellent. The space standards, including servant accommodation, are extravagant and would otherwise be economically unjustifiable.

PHILANTHROPIC HOUSING

Church and philanthropic institutions such as the Hong Kong housing society assisted in various ways by the government despite limited funds, have been active promoters of better housing. Many of their projects are on the outskirts of the harbour cities where small dwellings or apartments have been built. The rents have been made as small as possible and standards have been reduced to a basic minimum although sanitary and cooking facilities are provided. None are outstanding examples of architecture, but they do reflect sincere attempts to improve conditions.

THE SQUATTER AND RESETTLEMENT

Between 1947-57 HK$1000,000,000 has been invested in rehousing, but this was incapable of accommodating the majority of those living in substandard accommodation. Slum clearance was contemplated but social surveys indicated that all existing housing stock must be conserved. The problem has been compounded by between 260,000--300,000 squatters who are a source of embarrassment to the authorities. Most of them are refugees; without employment or shelter they constitute a serious drain upon the welfare resources, a health hazard and a potential danger to security. Their shanty dwellings surround the built up areas, constituting squatter suburbs which are periodically devastated by fire, flood and typhoon. While most fires are accidental, arson also occurs, since it has stimulated the erection of new housing -- or returned property to landowners for redevelopment. Such disasters drive the squatters into the streets and force the government to devise further resettlement programs and restrict legal immigration. Seventy-five thousand destitutes still bed down in streets, on rooftops, or under any available cover. One hundred and thirty thousand "floating" squatters live on junks and sampans which were once the homes and workshops of fisherfolk. As squatter areas are difficult to supervise, they become sanctuaries for criminals, prostitutes and other derelicts.

The resettlement policy of the Hong Kong government was to evoke unusual interest. New housing was fraught with insurmountable difficulties since non-combustible shelter which would be cheap, speedy in erection and adaptable was urgently needed. Minimum acceptable standards for housing and space, inspired by British practice, proved uneconomic, and beyond the means of the squatter.

The government made a shrewd reappraisal of the available resources, the building industry and the number of units needed. Standards were pared to an unbelievable minimum so that a single room could shelter a household. The buildings were of prefabricated concrete and used standardized communal facilities wherever possible. These new slums, as they have been described, replaced some of the squatter housing and were erected quickly. In 1955 a series of experimental units were built. These were three stories high and consisted of rooms having

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access from open balconies and staircases. They were prototype designs for the multi-storied apartment blocks later used in Kowloon.

The early Ship Kip Mei blocks have been extensively publicized in recent years. They were fireproof, accommodated large numbers of people, and were cheap. The plans were H-shaped having two blocks of back-to-back rooms sharing a service-cooking link. The roof was available for use as drying, recreation or school area. Each had a wooden door, a shuttered window and electric lighting. If the housing demand ever eased, it was hoped that an enlarged apartment could be made by opening up a door between each unit of back-to-back rooms.

Site layout was the worst aspect of the complex. A gridiron plan was adapted which did afford fire engines, ambulances, police and service vehicles access to every unit. Unfortunately, open space was severely restricted and the renting of ground floor shops turned each street into a pedestrian market play area. The monotony of the many identical blocks with their long facades facing west was unforgivable, nor did the application of pastel colors redeem their brutalism. Unexpectedly, resettlement aggravated the water shortage, since in Ship Kip Mei alone the tenants consumed over three million gallons a month.

THE HOUSING AUTHORITY

The largest residential programmes are undertaken today by the Hong Kong Housing authority, a public corporation created in April 1954. The Executive exists of members of the Urban Council and three government nominated appointees. A Commissioner of Housing is the senior executive officer of the Authority, which also has sections dealing with administration, accounts, estate management, statistics and architectural planning.

Housing Authority rents are kept low and must cover all expenditures. The new tenants are chosen from overpopulated areas where households share accommodation. Family inconvenience, war service, Hong Kong residence and service in the auxiliary Defense Forces are taken into account when determining an applicant's status. He must also have a total monthly income of between HK$300 and HK$900 a month before being placed on the register. Rents are then adjusted to the individual's means. Although the government grants no subsidies, it does sell Crown Land to the Authority at a third of the estimated market value as well as providing low interest loans from a Developmental Fund. The Housing Authority is an obvious descendant of the Singapore and Malaya Improvement Trust. It exercises restricted jurisdiction and cannot be held responsible for poor planning as its developments have never been integrated into a comprehensive city plan.

The analytical operations are European in concept; that is they are determined and interpreted by architect-planners and tend to be empirical and utilitarian.

Housing estates of considerable size but possessing a "conventional" municipal character have been built on vacant sites. Although the accommodation standards are utilitarian the buildings are architectural assets but, as white collar workers predominate as tenants, the Authority has been subjected to criticism. The architects have little choice: they could reduce standards to an absolute minimum or they could determine an acceptable living standard or a basic

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Western standard, but in Hong Kong this means that those who need the housing most are excluded.

As sites are limited, multi-storied development became essential. The Housing Authority plans to provide 5,000 dwelling units a year at densities of 1,000 persons per acre. The first housing estates, all designed by consultants, were 6½ acres off North Point, 3.7 acres at Kennedy Town, 18.79 acres in Kowloon (the So Uk Estate), 21 acres at Clearwater Bay and another 10 acres in Kowloon (the Ma Tau Chung Estate). Nearly all had irregular terrain and boundaries.

The apartment blocks now have eleven floors or more and use reinforced concrete frame, brick paneling as well as standard steel windows, doors and partitions. The foundations are supported upon piles driven into the reclaimed land; many are over 105 in depth. The apartments have kitchens, sanitary facilities, utility balconies and simple electrical installations. All estates are self contained with primary schools, clinics, post offices, halls, shops, pharmacies and electrical substations. Flushing water is provided by wells from the sea.

The So Uk Estate, which is one of the largest housing developments in the Orient, will have 4,600 apartments for 30,000 persons in twelve-to sixteen-story blocks. It will be provided with primary schools, an assembly hall, thirty shops, an estate office, a clinic and a post office.

Perhaps it is inevitable that there is a superhuman scale in most of these housing estates, and it is unfortunate that repetition of similar elements leads to overpowering monotony. The high densities require formal spatial treatment, but the intense use of site, and the need to reduce maintenance costs leaves the landscape architect with a restricted vocabulary. Yet, the architecture is generally sound and Housing Authority projects have more imaginative layouts than previous mass housing.

The population increase and the shortage of industrial sites has forced the administration to underwrite three new industrial towns in the New Territories. Each satellite will accommodate a million persons: eventually 5,000,000 will reside in them. Together these will cover 1,200 acres at the ratio of 350 workers per acre on Hong Kong Island, Kowloon and Kowloom, including Kwun Tong.

THE CITIZEN AND THE ENVIRONMENT

Despite the administrative failures, Hong Kong has indigenous lessons for the planner. With fantastic densities up to 3,900 persons per acre, with the subsequent strain upon traffic facilities and services, with inadequate housing standards and with the inequities of casual laissez faire, the citizens (and particularly those with low incomes) have triumphed over their environment.

The resident Chinese are seemingly by nature, adaptable, gregarious and capable of utilizing the most meagre resources to enrich their environment. Their needs are few and simple: food, shelter and a livelihood. The new industries, being dependent upon imported resources, has utilized their industriousness, considerable skills and their cheap labour. Short of open space, provided with the simplest shelter and enjoying but the barest of necessities, the endurance,

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humour and sensitivity of the people has produced an environment which is mobile, exhilarating and rich in experience.

The Chinese are city dwellers, not from choice but through circumstance, yet they have turned the street, the shop, the eating house and the tenement into theatre, market and community. All have blended together in an intricate and unusual social pattern. The open-fronted shops and occasional markets with their odors of dry fish, joss and scented materials, together with the bustling pedestrian movement, the haggling in purchase and sale, create an unforgettable atmosphere. The noise of musical instruments, the Ma Jong players, the perpetual honk-honk of vehicles, the yells of greeting or outrage, the siren of police, fire brigade or ambulance, the rumble of the streetcar, radio and the jukebox are an essential ingredient of the perpetual hum in the built up areas by day and night. The colour of the traditional advertisements, the neon signs, the shop displays, the sensitivity or bulgarity of decorative materials provide unusual visual stimuli. All activity is intensified by the birthday or the marriage celebrations, the funeral processions, the business contracts; by New Year, political or national celebration, any of which may focus upon the restaurant, the temple or the church, or the club, and these all have their own peculiarities of sound and colour. At night, after the intense heat of the day, the effects are intensified. The stores and restaurants operate into the early hours of the morning, and the ugliness, the shoddiness, the poverty as well as the opulence are all hidden by a variety of electrical demonstrations which put Coney Island to second place.

The population diversity is reflected in dress and custom, by the industrial worker, white-collar worker, scholar, student, merchant, coolie, amah, Cantonese, Shanghaiese, Pekinese, agriculturist, landowner, peasant, fisherman, lighterman, taxidriver, hawker, Pakistani and Hakka; all of whom have their own image of their city. Social groups emerge which are associated with a common pattern of movement, with a common patronage of establishment or a tendency to group together through diet, area of origin, language, occupation and relationship.

Perhaps it is significant that the visitor bypasses the European commercial establishments in the central area and gravitates to the Chinese streets where he searches the curio, jewelry and ceramics shops, watches the craftsmen tailoring, designing, polishing and shaping, or observes others gourmandizing in the restaurants.

There is life and vitality in these high-density areas swarming with people which, contrary to various laboratory rat experiments, do produce interest, liveliness, sense of community and well-being amongst the inhabitants. Vice, crime and prostitution are also present, but rarely to the extent that the news media would indicate. Many of the inhabitants have fled from the puritanism of the communist-organized and drilled society in which basic food, shelter and clothing are perhaps more adequately provided than in the free society. The Hong Kong resident can exercise his abilities and enjoy his leisure. Western academic planning tends to overlook the simple fact that the human being is adaptable, resilient and invariably triumphs over his environment as has apparently happened here.

THE IMPLICATIONS OF HIGH DENSITIES

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The Hong Kong lessons are obvious; there are many advantages to high density:

1. Most residents are between two to fifteen minutes distant from their place of employment.

2. Within a five-minute radius, they enjoy a variety of shops, markets, commercial institutions, restaurants, cinemas and other recreational facilities. They can compare prices, hunt for bargains and enjoy a range of choice from department store to standing. There is extraordinary commercial flexibility. A neighbourhood will include light industries, craft operations, offices and a diversity of other occupations -- since mixed uses are permitted. These are accompanied with variety, contrast, interest and convenience -- a situation which rarely emerges under Western zoning.

3. Pedestrian circulation predominates since the inhabitants have "taken over" all smaller streets or lanes. These have become malls in effect and are lined with open standings throughout their length. Thus, pedestrian concentration has forced a desirable pattern of development. Service circulations occur during the early morning or the late evening since overcrowding renders day loading inconvenient. Both wholesaler and retailer have adopted a service technique in smaller streets similar to the closed streets of Holland. It may be inferred, therefore, that the inhabitants of areas with high densities can capture space for exclusive pedestrian use and so fulfill desirable planning end.

4. Variety, smell, tone, colour, texture, contrast, discord and harmony are all characteristics of high-density living. These stimulate activities of all types and provide efficient service to all citizens. Shops remain open as long as possible to obtain customers. Their late closing and early opening changes the character of a community. It affects the life of every inhabitant and forcibly introduces him to those of different races, areas of origin, languages, customs and creeds. It destroys social isolation and forces all into close association with one another - thus enriching the individual's life and experience.

5. Higher densities are conducive to the maximum usage of facilities and one is not left with idle and uneconomic urban elements. Furthermore, the street in the absence of facilities becomes a viable recreation space -- a lesson which has been adapted in several European cities.

6. High-density living and intensive land use are compatible in mutual association with each other. Both benefit from the convenience. The "image" of the city for most inhabitants is that of a street or a block which is virtually self-contained. A natural selectivity is displayed by larger industries such as machine shops, textile mills, etc. which, because of serving inconvenience, group in industrial areas as close to the available labour pools as possible. There is a strong case for incorporating light and heavy industrial elements into the fringes of new neighbourhoods.

7. The neighbourhood emerges naturally in areas of high density. It

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occupies much smaller acreage as most facilities concentrate in a street, a block or a small open space. The inhabitant identifies himself in the points of maximum activity, with the restaurant, the club, the clinic, the temple or the church, which are invariably in close proximity to each other.

8. These communities manifest many of the advantages that LeCorbusier has postulated for his Ville Radieuse, although he attempted to blend green space with building and thus create an urban-rural balance. The Hong Kong gridiron is a distinctively urban metier, but the geographical advantages of mountain encloseure, shore line and bay have provided the townsman with environmental beauty. These, in relation to the character, symbols and forms in his district, make him unusually conscious of physical elements and change -- even in the smallest detail.

9. The lineal gridiron has divided the town into easily identifiable sectors. Within fifteen minutes any citizen can reach the hillside or the waterfront. This is an inherent effect of lineal sprawl, which, as it grows, eventually consolidates into a comprehensive urban area. Lineal growth is accompanied by desirable dispersion. Hong Kong certainly substantiates the theories of Sorior Y Mata and Le Corbusier. A lineal city combined with Le Corbusier's high-density residential concepts is an operative thesis for developing a realistic master plan where population densities are greater than 145 persons per acre.

10. As the vehicle does not operate effectively in such concentrations, it will adapt and restrict itself. Public transport is the only effective communication between various areas. Consequently the revitalization of the streetcar or some vehicle which affords the passenger observation of the shifting urban scene is most desirable. Severe restrictions should be imposed on other vehicles or they should be banned from congested areas.

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Today the emergency service of police, fire, medical and security personnel, encounter severe problems, but the lack of space at ground level for sidewalk, square and street could have been overcome with intelligent planning. It must be admitted that high densities are conducive to crime and disaster, particularly where inadequate residential accommodation has been associated with overused meagre service and facilities. Metropolitan areas must install service systems far exceeding anticipated demands despite the heavy initial cost; the water and sewage systems of Hong Kong have proved totally inadequate for the present population simply because no one ever foresaw the present expansion.

Despite all the criticisms levelled at the Hong Kong Colonial Government, the postwar achievements have been noteworthy; the authorities are at last analysing their resources and initiating planning. They have developed a viable economy and created a new industrial base for the community. They have pioneered in the mass production of housing and, despite a lack of aesthetic sensitivity have, in large measure, made sincere attempts to meet their obligations. They are developing satellite industrial communities. Their ability to utilise the resources of contemporary planning will become apparent within the next decade and perhaps it is only then that the critic may give an impartial assessment of their achievements.

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The following supplemental teaching materials were developed by summer school students in a housing workshop and by teachers called into a two day workshop held at Arizona State University. In most instances, the development of the conceptual ideas will take more in-depth teaching than indicated in the materials, and the curriculum guide is a source for additional learning experiences.

The performance objectives listed on the teaching materials do not indicate the conditions or list the method of evaluation for them because this is a decision for the individual teacher to make.

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USE YOUR IMAGINATION

This experience is planned for any level and with students from any income level.

1.1 Human and environmental factors are interrelated in the provision of housing.

Performance Objective: A student will be able to identify the factors in nature which must be considered in selecting their housing.

Students work together in a small group and depict with words or a rough sketch one of the following types of dwellings:

A dwelling on the ocean floor
A dwelling on the moon or on a skylab
An underground home
A home in an isolated area, perhaps on an island or in the Artic
A futuristic dwelling in a crowded urban area
A home in a tree (think of Tarzan and Jane)
A nomad home in the Sahara

After planning the dwelling, each group identifies the locale where it is located, what factors in the environment were considered in planning it, how many will be living there, and a description of its size and shape.

After each group has presented their imaginary dwelling, the class discussion to follow might center on:

1. What are the advantages and disadvantages of each type of environmental dwelling place?

2. What special problems might be encountered living in any one of the portrayed environments? Are there similar problems amoung all of them? What problems are unique to one particular environment?

3. Why is environment so important to consider in planning housing?

If the teacher wishes to integrate the career education concept into this experience, the roles that need to be played by various individuals could be identified with how they have been taken over by other individuals in a complex situation. For example, what related occupations are needed to survive on the moon. (nutritionist for space food, psychologist for living in an isolated situation, etc.)

The final consideration might be, "How would family life change if any of these imagined situations become a reality?"

WHICH LIFE STYLE?

The advanced level is probably the most suitable level for this experience

2.13 Man consciously or unconsciously expresses his values and standards through a living pattern in housing, which in turn has an effect on the neighborhood environment.

Performance Objective: A student can verbalize the relationship of a life style assumed by an individual and his housing environment.

DIRECTIONS: Go over the items listed below with members of the class to make sure they understand the terms. Class members are to choose 10 items from the list on this page which would BEST suit each of the life styles listed on the following page. (This could be done individually or in small groups).

Items

book shelf
T.V.
set of 3 portable electric pans
chandelier
king size water bed
set of twin beds
decorative trunk
melmac dishes
fine china
Parsons table
piano
guitar
swimming pool
micro-wave oven
free standing range
frost-free refrigerator
dining room set
outdoor swing set
sewing machine
original paintings
artificial flowers
bar with stools
double bed
kerosene lamp
carpet
linoleum
muslin curtains
sheets for curtains
vinyl lounge chair
vinyl sofa
second hand furniture
dishwasher
others_____

_____

studio couch bed
sofa - damask
amoire
3 baths with Bedette
single bath
atrium
hot plate
baby bed
wicker furniture
coffee table
picnic table with benches
floor cushions
bean bag chair
mahoganay end tables
credenza
grandfather clock
love seat
ben franklin stove
satin draperies with valence
cafe curtains
wing back chairs
unfinished chest
automatic washer
automatic dryer
trash compactor
cot
commode or chamber pot
freezer
3/4 bath
outdoor privy
etegere'

continued

Life Styles

couple with 2 small children
single career girl (over 30)
single man
retired couple
couple with at least 6 children
childless working couple
2 college-age roommates
farm family
single parent family with 3 teenagers
rural commune group

After the groups have finished the experience, a comparison of where items were placed is made. The goal for the experience is not consensus, however, for different values would cause individuals to place items with different life styles. There should be an effort made, however, to evaluate why some items would be impractical for some life styles.

A discussion might follow on the topic, "Individuals have a right to live as they choose without regard for their neighbors."

If time permits, an investigation of health conditions that must be maintained and other living restrictions on individuals should be reported by an outside resource person, the teacher or individuals from the class.

WHICH FAMILY BELONGS TO WHICH HOUSING ENVIRONMENT?

This experience is offered at intermediate or the advanced level with the idea that students should be able to relate the family life cycle to different needs in housing.

2.13 A person's life situation is made up of a combination of circumstances which collectively influence his housing needs. The stage of the family life cycle is a large factor in determing the housing needs of an individual.

Performance Objective: A student will be able to designate in writing some factors that must be considered in choosing housing for different stages of the family life cycle.

A number of pictures of various types of housing are labeled with numbers and placed in one section of the room. On the other side there are pictures of different types of families and individuals (e.g., a young couple, a family with small children, a middle-aged husband and wife, a senior citizen, a low-income family and an obviously wealthy family) which are labeled with letters. Students in small groups are to decide which number belongs to which letter. Some of them may not be obvious matches or some housing pictures might be appropriate for more than one family or individual. Once students have decided which number belongs to which letter, the group is polled to see about agreement between groups. If there is not agreement, justification for differences are discussed. The class then concludes if dissimilar types of housing environments are required for different stages of the family life cycle. This activity might lead them into researching what special needs in housing are required for the aging, whether all housing situations permit children, requirements for public housing, etc.

Students need to experience or view for themselves some of the feelings that emerge from making housing decisions. Values are frequently involved, as well as some practical considerations of cost, space and quality. Role-playing and minute dramas have the potential of actively involving students in value clarification and real situations. The class discussions that follow such activities should lead to the realization that values must be reconciled in making decisions about housing environments. Experiencing simulated reality prepares students for coping with similar situations when they experience them.

In using sociometric techniques, it is most important to assign the watching audience specific characters to watch and attempt to interpret their feelings. Immediately after the role-playing situations or minute dramas have been completed, the actors are asked to give their feelings about the roles played. Then students assigned to the specific characters are asked to give their interpretations of what the persons were feeling. It is only after the feelings have emerged that students should evaluate the solution of the problem.

2.13 When living patterns and expression of values are considered, a satisfactory modification of environment is likely to be achieved.

Performance Objective: A student can identify how different values operate in selecting housing or furnishings.

Beginning Level

> When Ann came home from school she found a pastel floral chintz bedspread that her mother had just purchased for her on sale. Ann thought they had decided that she would have a plain blue spread. How did Ann react?

After the minute drama is enacted, the feelings shown in the drama are analyzed and the solution evaluated. If the individual rights of children and parents are not brought out in the discussion, the teacher should ask the following questions: Do children have a right to choose their own furnishings or is it a privilege? Should material things be purchased that children want at the expense of the family budget? Should parents have the final decision about furnishings for the home?

Advanced Level

> A young newly married couple have just bought a 12-year old, two-bedroom furnished home. Included was a three foot dull green pedestal. Bruce carries it to the alley, and Sally finds it and brings it back into the house.

After the minute drama is either enacted or discussed, the idea that one individual may recognize an object as resource while another one may not because of differing values and experiences should emerge. The teacher may ask the students to make a list of 25 things that they would want to have in their home. The lists could be tabulated and indicate the commonalities wanted by all students. The unique items could be explained by the persons who suggested them.

continued

Advanced Level

John and Mary, a young married couple, are discussing which two-bedroom house to buy. John is in favor of the older home located in a settled neighborhood while Mary wants to buy the two-bedroom home in a new housing development. The new home will cost $25 more per month and has a high interest mortgage. The mortgage on the new home will take thirty years to pay while the older home will be paid for in twenty years. John is only interested in a comfortable home that is within their budget restrictions. Mary wants a home that is beautiful and has status in the eyes of her family and friends.

Following the discussion about the feelings shown by John and Mary, the advantages and disadvantages of buying a brand new home and an older home need to be summarized.

3.22 When housing provides for individual fulfillment of one's social and emotional needs, it tends to contribute to his well-being. The concepts of privacy, rootedness, equality, family centrism, creativity, self-concept and status are needs to be considered.

Performance Objective: A student can describe how social and emotional needs are met through the housing environment.

Intermediate or Advanced Level

The Johnson family are redecorating their combination recreation and family room which is 13'x25'. The walls have been painted a beige and they want to make the room look brighter and more colorful. Besides Mr. and Mrs. Johnson, the family consists of Tricia, 17; Dale, 15; and Ben, 8. They have brown leather furniture, built in walnut bookshelves so a range of colors would be possible. The room has only one small window so does not get a great deal of natural light.

After the role-playing situations is analyzed for the solution to the particular problem, the students can identify how this room meets the needs of the various family members.

SET INDUCTIONS

The following experiences can be used as set inductions in the teaching of environmental housing and life styles. Using the set induction process enables a teacher to relate familiar ideas to more complex or abstract ones so students can comprehend complex concepts. Set inductions are frequently used to introduce a topic and usually cause students to become more interested in the subject.

ADVANCED LEVEL

2.23 Man in an effort to maintain minimum standards for public health, safety, and general welfare has developed building codes and zoning laws for communities.

Performance Objective: A student can identify reasons for building codes and zoning laws.

A cotton ball, a kitchen match and a glass of water are put near each other on a table. The teacher them asks the students, "Are these items usually kept together? What problems might arise if they are stored in the same area?" The teacher tells the students she is going to light the match and then asks them, "What might happen if the match came too close to the cotton ball? What will happen if the match comes too close to the glass of water?" (can illustrate if done safely) The teacher states, "You have seen that not all materials should be stored together, so how does the same idea relate to safe building? Should tall buildings be built among one-family homes?"

The teacher then reports, "The next few days we will be studying the building codes and zoning laws, and we will try to find out the relationships between building codes and zoning laws and the welfare and safety of individuals."

2.4 When housing problems exist in society, they need to be considered in terms of their effect on physical, emotional, social and intellectual growth and well being of individuals and society.

Performance Objective: A student is able to comprehend the relationships between housing problems and the well-being of individuals.

The teacher selects one part of the classroom and creates a feeling of confusion and crowding by pushing tables and chairs together in an unrelated way, strewing papers over the floor and putting other articles out of place.

continued

Just before it is time for students to enter, the teacher burns a rubber band in a metal container and turns on the tape recorder which emits loud, harsh and discordant noises.

The teacher ignores the situation and asks the students to take out paper and pencil for a short quiz. By now students should be asking such questions as: "Why is the room this way? What is burning? What are those noises? Where can we sit?"

Once the anxiety level is high, the teacher replies, "Would you like to change it? Alright, somebody turn off the recorder, let's put back the furniture where it belongs, pick up the papers and pour some water on the smouldering rubber band."

Once the room is back in order, the teacher starts the discussion by asking these questions: "Did you like the room when you came in today? What bothered you when you entered? Did any of you want to turn around and leave? Could you have taken a test when you came in the room? Why couldn't you? How would you feel if you had to live in such a situation all of the time? Do people have a right to live in a comfortable and safe environment? Is so, why?"

The teacher then comments, "This next week we are going to study what housing problems exist in our area and what efforts are being expended to help alleviate them."

5.1 When individuals use their understanding of the decision-making process in making and carrying out decisions, they have a means which can be used in creating a satisfying housing environment.

Performance Objective: A student can identify reasons for using careful decision-making in the choice of a housing environment.

The teacher assembles three paper cups of different colors - green, yellow and orange perhaps. In one of them she places a nickel and in another one a

continued

SET INDUCTIONS (continued)

dime. The third cup is left empty, and lids are placed on all of them.

The teacher then asks the students if one of them wants the yellow cup, another the green cup, and the orange cup is selected by another student. The teacher then inquires of each student why they wanted the cup they chose. Only then are they allowed to take off the lids and find the money.

The class discussion then is stimulated by the teacher asking these or similar questions: "Do people ever make housing selections by one factor alone? How many of you have heard of people purchasing lots by mail? What disadvantages does this have? What do you need to know to select housing?"

The teacher states, "Here are three ads for lots in the White Mountain areas. See what information you can obtain from reading them in small groups. What further information do you need clarified?"

After each group reports on what information they still need to know, the teacher indicates that time will be spent studying the factors to consider in choosing housing and the list will be revised.

A role playing situation centered around the purchase of land or a house might be an evaluation of whether or not students have learned to apply the decision-making process to the choice of a housing environment.

SURVEY OF APARTMENT RESTRICTIONS

This survey may be done in small groups or by an individual with careful planning so duplication of apartment managers is avoided. The students survey to find out what apartment managers look for in prospective renters and what restrictions are placed on the tenants.

2.44 When an individual or family is located in a particular area, the life style tends to be affected as a result of the housing decision. For example, restrictions in particular areas may affect where individuals can live.

Performance Objective: A student will be able to identify what restrictions may operate in the choice of an apartment.

Factors	Restrictions	No Restrctions	Other Comments
Age Category			
Requirement of a lease			
Type of Employment			
Animals (If so, what kind)			
Number of Children Permitted			
Marital Status (single or married)			
Number of Automobiles			
Type & Number of References			
Cleaning Deposit			
Other Factors- Washing cars Working on cars Number & length of stay of visitors Appearance			

After the report is given orally in class, students summarize how the life style of individuals can be affected by such restrictions.

WHAT ARE YOUR IDEAS ABOUT A HOME?

This experience is suitable for any level of students, and its basic purpose is to stimulate thinking on the part of students about what features in the housing environment are essential to them.

3.0 Housing affects the quality of living for individuals and families.

Performance Objective: A student will be able to identify qualities in the housing environment that are important to him.

Complete 12 of the 18 sentences in your own words:

1. I like a home that is _____.
2. I dislike a home that is _____.
3. A yard is attractive when _____.
4. In order to pursue hobbies actively at home a young person needs _____.
5. My favorite color in a home is _____.
6. If I could, I would change my home so that _____.
7. To me, the most important room in the home is _____ because _____.
8. Young people would hang up their clothes if _____.
9. Furnishings in a home should be _____.
10. I enjoy helping with the housework because _____.
11. I do not like helping with the housework because _____.
12. If I could live anywhere in the world, I would live _____ because _____.
13. I would like to move from where I live because _____.
14. I would hate to move from where I live because _____.
15. A living room is attractive when _____.
16. Where a person sleeps should be _____.
17. A student can study at home when _____.
18. A young person will invite friends to his or her home if _____.

After completing the sentences, a class discussion could follow on what qualities are important in any home. A list could be then made of factors which are essential in making a home safe and livable. Also, the statement might be discussed, "Happiness is possible wherever you live."

CREATIVITY AT WORK

This experience is expecially appropriate at the intermediate level for students from all income levels. If possible, the materials should be available in the classroom for students to create items for the housing environment. Students may work individually or in groups.

3.23 When one recognizes available resources, this may tend to encourage improvement in areas where housing fails to meet the needs of individuals.

Performance Objectives: Each student can create a usable article for the housing environment.

The following items are provided for students, and they are encouraged individually or in groups to create items which are aesthetically pleasing and functional, if possible, for the home. Other items may be provided by students if they so desire.

Orange crates
Styrofoam blocks
Gallon jugs
Shoe boxes
Spray paint
Bottles of assorted shapes
Glue
Contact paper
Shortening cans
Needles and thread
Scissors
Bulk ice cream cartons (3½ gallon if possible)
Berry boxes
Apple boxes
Fabric - 2½ yards if possible
Old trunk or foot locker
Colored tissue paper
Oil can
String
Rope
Box of wood (scraps from shop)
Old chair
Carpet scraps
Plywood - if possible 4'x8'x3/4"
Corkboard 12"x24"
Throw rug
Pile of magazines
Assortment of braid, rickrack, ribbon, yarn, and felt
Others

_____

_____

If classroom space is not available for the creative experience, the list should be handed to students in small buzz groups so they can indicate what they might create from the list of materials. Students should be encouraged to try some of the ideas at home.

If the real materials are used and articles made, they can be sold through F.H.A. or given to a charitable organization. The actual cost of the article should be itemized.

An effort should be made to summarize what creating a pleasing environment with limited resources does in terms of the use of time, energy and money for these articles that are not without cost.

The next page is an example of a creative project.

Ojo de dios

An ojo (Oh-ho de dios or eye of god is a type of Paho, a prayer offering used by the Hiuchol Indians of Mexico to bring good and erase evil.

To make the basic ojo form:

1. Select two sticks (dowels, tree limbs, popsickle sticks, toothpicks, or skewers).

2. Cross the sticks so that they meet at the middle. You can pre-glue or wire them to make them easier to hold or begin to tie the yarn at the intersection and start winding each arm consecutively until secure.

3. To prevent slipping, put masking tape on the sticks so that they have a rolled strip on each stick extending to the end. Roll so that the sticky side is out.

4. Begin winding again so that you are winding over the tape. When going around each stick, keep the yarn fairly tight, working counter clockwise if you are right handed.

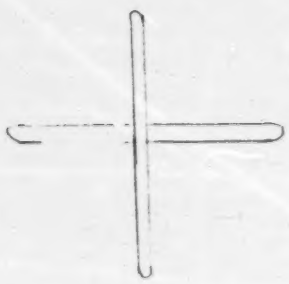
5. To change colors, merely knot the new yarn so that the knot falls on the back side of the ojo.

6. Finish off the ends with pompoms. To make a pompom, wrap yarn around a piece of cardboard the size you want the pompom to be. Tie the loops on one with a piece of yarn, and cut those of the other end. Remove the cardboard, and with a piece of yarn wrap the uncut part about 3/4" from the end.

7. For interesting variations:
   A. For an elongated look, wrap yarn twice around opposite sticks and once on others.
   B. To create space between the strands, go around each stick 2 or 3 times before going to the next one.
   C. To create a star shape go around every other stick twice so that you are wrapping on one side or opposite sides. When you have about 1 to 2 inches,cut and tie on back, then begin other side of stick. When star is size you want, go back to original pattern.
   D. To create an indented look, wrap yarn under dowels instead of over.

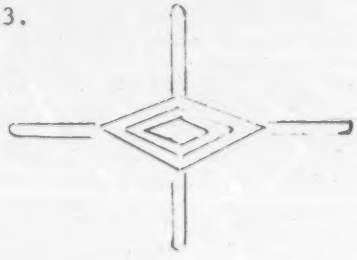
Steps in making ojo:

1.



2.

3.



EXPERIENCES WITH COLOR

These experiments are suitable for any level for students of varying socio-economic backgrounds

4.11 Color is the reflection of varying rays of light which influence optical effects. Individuals respond emotionally, as well as visually, to color, and the reaction varies for diverse cultures and individuals within the same culture.

Performance Objective: A student will be able to verbalize the effect of light on selected colors, and she or he will be able to describe the emotional response obtained when he or she views selected colors.

A chart such as listed below is given to the students after testing situations are set up at different locations so students can rotate from one to another. After doing each experiment, students are to record their results.

Experiment	Results	Your conclusions
I. Stare fixedly at a red square against a white background. Now take away the red square. What happened?		
II. Hold a prism above white paper. What did you see?		
III. After mixing each color in equal parts, paint a strip on paper and study the results.		
a. Red and blue		
b. Red and yellow		
c. Blue and yellow		
d. Red, blue and yellow		
e. Red and orange		
f. Red and violet		
g. Blue and violet		
h. Blue and green		
i. Yellow and green		
j. Yellow and orange		

continued

EXPERIENCES WITH COLOR (continued)

Experiment	Results	Your conclusions
IV. a. Put a plain blue swatch of paper or fabric against a blue and green print.		
b. Against the same print, put a green swatch.		
c. Against the same print, put a black swatch		
d. Against the same print, put a red swatch.		
V. Take six designated swatches and first look at them under artificial light, and then look at them outside the door or at the window.		
a. Dark blue		
b. Orange print		
c. White print		
d. Yellow or gold		
e. Violet print		
f. Red, blue and white design		
VI. Look at the following color swatches, hold them against your face, and record your feelings about each of them:		
a. Black		
b. Orange		
c. Red		
d. Purple		
e. Green		
f. Yellow		
g. Blue		

In two or three sentences, record what you have learned about color today.

continued

In the class discussion following the color experiments, have the class summarize some of the principles that they have learned about color. If students from different cultures are in the class, compare their emotional responses to colors. One student may wish to look up color meanings for different cultures.

SELECTION OF A FIRST HOME

This case study is appropriate for intermediate or advanced level.

5.2 When making decisions concerning housing selection, the factors of cost (evident and hidden), location, individual and family needs are important to consider.

Performance Objective: The student is able to evaluate situations in terms of sound decision-making and suggest ways of handling housing problems in a positive fashion.

DIRECTIONS: After reading the case study below, cross out and change, add or delete words and phrases so the case study is accurate in terms of sound consumer practices in selecting a place to live.

Joe and Barbara were planning to be married the 23rd of December. They did not anticipate the many pressures and strong emotional impact with Christmas and wedding plans. They were both employed at the time of the wedding, but Joe planned to begin college in January. Two weeks ago they opened a joint checking account as Mr. and Mrs.

They planned to look for an apartment together, but they did not find the time. A friend where Barbara worked who had similar tastes suggested an apartment she just knew would suit both Joe and Barbara. When she described the apartment to Barbara it sounded just like what they needed. Since it was on the opposite side of town from where Barbara was working, her friend suggested she just call the manager and make the arrangements over the phone. The manager said the first and last month's rent plus a $50 cleaning deposit was required. He indicated the rent was $175 per month. Another couple was also looking at this same apartment so in order to secure it the deposit needed to be in the managers possession by the next morning. She could not take the check to him, so she mailed it.

Joe was very concerned that they did not have an apartment yet, and he was afraid they would have to live with one set of their parents. On the way to work, very near his place of employment, he spotted an apartment for rent. He stopped and talked to the landlord. Because it was almost time for work, he signed the lease without reading it and give the man a check for $400 to secure the apartment.

That night when Joe and Barb met they surprised the other with the great news about their first home together!

I. List the things they did wrong.

II. Now suggest a solution to their problem.

REPORT FORM FOR HOUSING FIELD TRIP

This report form is appropriate for the intermediate or advanced level. The places to visit suggested by the teacher will be appropriate for the income level of the students. Townhouses, one-family homes, mobile homes, furnished apartments and retirement homes are desirable ones to compare.

5.22 Available choices in housing exist in several types varying with the organization of space, shape, and size.

Performance Objective: Each student will be able to make comparisons between the different types of housing available.

An individual or a pair of students may volunteer to visit one of the suggested types of housing and bring back the results of the tour. In most instances, it is best to seek information in detail on just one room, the living room perhaps. The entire floor plan should be considered.

Name of student(s)_____ Type of dwelling_____

Location of dwelling_____

Builder or manufacturer_____

Furnishings of Lving Room

Style of furniture used_____

Wood used in furniture_____

Upholstery fabric of major pieces; name pieces_____

Room accessories used (describe briefly)_____

_____

Floor covering:

Type and color of floor covering_____

Windows:

Number, placement, and type_____

Type of window treatment used_____

Color of draperies, shades and/or glass curtains_____

Wall treatment:

Type of walls--painted, wallpapered or paneling _____

Color of walls_____

Size and Shape of Living Room

Dimensions of room_____

Number of openings_____

REPORT FORM FOR HOUSING FIELD TRIP (continued)

Traffic patterns_____
(Use the back of this sheet to sketch the room with placement of major pieces of furniture and the openings)

Lighting:

Overhead lighting if available, describe_____

Number of lamps and type in the room_____

Where are they located?_____

Mood of the room_____

Other Rooms Besides Living Room

Kitchen

Size_____

Major applicances_____

Counter space_____

Dining area, if one

Size_____

Bedrooms

Number of_____

Size of each_____

Bathrooms

Number of_____

Size of each_____

Den or Family room, if one

Size of room_____

Major features_____

Utility room, if one

Size of room_____

Closets

Number_____

Size of each_____

continued

REPORT FORM FOR HOUSING FIELD TRIP (continued)

Total cost of housing unit_____

Number of square feet_____

Maintenance cost if townhouse or lot for mobile home_____

Financing cost_____

In the class discussion following, the advantages and disadvantages of the different types of housing should be summarized and the major features to look for identified.

This experience is most appropriate for the intermediate or the advanced level. Each student should do the ranking for himself or herself, and then a small group or two individuals of the opposite sex should try to come to an agreement on what is most important in an apartment.

5.23 The quality of housing standards are influenced by economic status, individual and family needs, values, attitudes, housing knowledge and past experience.

Performance Objective: Each student is able to analyze his or her own values regarding an apartment as compared to other students.

DIRECTIONS: Rank in order of importance the 14 items listed below which are important to you about an apartment.

Your own Ranking	Ranking by Consensus		
( )	( )	A.	A beautiful exterior is evident
( )	( )	B.	Location is near work
( )	( )	C.	Neighborhood looks good
( )	( )	D.	Recreation facilities are there or nearby
( )	( )	E.	Convenient parking is available
( )	( )	F.	Size of apartment is adequate
( )	( )	G.	Sound proofing is good
( )	( )	H.	Floor plan is convenient
( )	( )	I.	Rent is within budget limits
( )	( )	J.	Heating and cooling systems function well
( )	( )	K.	Electrical outlets are numerous
( )	( )	L.	Storage space is adequate
( )	( )	M.	Apartment is on the ground floor
( )	( )	N.	Windows provide natural lighting in all but the bathroom(s)

List the statements which are based on facts by letter_____

List those which are based on values_____

After the experience, individual students may discuss why certain factors are important to them while others are less crucial. It should also be evident from the experience in a small group or with a person of the opposite sex that compromises must sometimes be made when housing decisions are made.

This experience is suitable for the advanced level for any income level. Each student fills this out as a pre-test and the class discusses the reasons why certain things should be done first.

5.24 The advantages and disadvantages of buying an existing unit must be weighed before a decision is made.

Performance Objective: Each student will be able to analyze tasks which must be accomplished in order to make a home safe and livable.

John and Mary have a limited amount of money and have an opportunity to buy Mary's grandmother's five room house for back taxes from the estate for $3,000. The neighborhood is good, but the house is quite rundown. Over and above their monthly payment they can spend $100 a month fixing up the house. Read the list of tasks below and decide what should be done first, second, third, and so on. Also indicate what they should do themselves and what should be done by a competent craftsman.

1. The furnace looks rusty but still runs.
2. The cooler needs replacing.
3. Walls are dirty and need painting. Walls are dark in color and make the house appear gloomy.
4. The kitchen linoleum is worn and needs replacing.
5. The ceiling in the living room has brown spots on it.
6. The wiring is bare in spots in the storage room at the back of the house.
7. The boards on the back porch are loose.
8. The gas heater vent is rusted.
9. The plaster is loose in a spot in the storage room.
10. A place for the baby due needs to be fixed up in the next six months.
11. The windows rattle because the putty has fallen out.
12. The tile is dirty and stained in the bathroom.
13. The woodwork is badly scarred in places.
14. The sink drains slowly.
15. A closet needs to be built.
16. The paint on the outside of the house is peeling.

continued

JOHN AND MARY FIX THEIR HOME (continued)

Task Number	Approximate Cost	Month	Craftsman or Themselves

After the discussion, committees should be assigned the task of finding out the approximate costs of plastering, wiring, roofing, building a closet and replacing a cooler.

After the reports, the class decides if it is always desirable to buy rundown property. In addition, the hidden costs of buying new property and fixing it up to be livable are identified. Costs that might be investigated are: cost of fencing a backyard, cost of establishing a yard, cost of additional shrubbery and flowers.

SCORECARD FOR SHOPPING FOR A HOME
(Single family dwelling, townhouse or duplex)

This experience is suitable for an advanced level class and the choice of housing to be evaluated would depend upon the income level of the class.

5.24 When individuals and/or families examine available choices for managing the cost of housing in terms of needs and resources of the family, a more satisfying decision may be reached.

Performance Objective: A student is able to analyze important features of a home.

1. Foundation of Home:
   Materials used_____
   Type of_____
   (slab, crawl-space, basement, etc.)

2. Lot
   Size of_____
   Drainage (in river bed or arroya)_____
   Type of soil_____
   Zoning restrictions_____

3. Cost of Housing
   Down payment required_____
   Closing costs_____
   Monthly payment_____

4. Livable Space
   Total square feet_____
   Total living space under roof_____
   Size of rooms (small, adequate or large)_____

5. Insulation
   Type used_____
   Where insulated (walls, ceiling, etc.)_____

6. Exterior Finish
   Type (painted, brick, or siding)_____
   Condition (poor, fair, or good)_____
   Cost of upkeep (approximate)_____

7. Roofing
   Type used_____
   Condition (poor, fair, or good)_____

8. Electrical Wiring
   Types of outlets used_____
   Adequacy of outlets (poor, fair or good)_____
   Condition of wiring (poor, fair or good)_____

continued

Scoreboard for Shopping For a Home (continued)

9. Storage Available
   Number of closets_____
   Outside storage (number of square feet)_____

10. Heating Plant
   Type of energy used (electricity only, gas, steam heat, etc.)_____
   Adequacy of plant for space (poor, fair or good)_____

11. Type of cooling
   Cooler size_____
   or
   Air-conditioning unit size_____

12. Doors and Windows
   Number of openings_____
   Condition of doors and windows (poor, fair or good)_____

13. Walls and Ceilings
   Type of finish on walls and ceiling_____
   Condition of walls and ceilings (poor, fair or good)_____

14. Kitchen
   Appliances included_____
   Type of arrangement (corridor, L or U shape)_____
   Fireproofing (yes or no)_____
   Size (small, adequate or large)_____

15. Size of other rooms (small, adequate or large)
   List rooms under each category:

Small	Adequate	Large

In a few words, evaluate the good and poor features the particular home has

Good Features	Poor Features

If you were able to make a purchase, would you buy this home? If so, why would you?

Each class member or a pair of class members report on their particular home they evaluated; any additional features that should be considered in buying a home are reported and evaluated.

VALUES ABOUT HOUSING

The following list of items are given to the students with a definite sum of paper money and an auction is held with the teacher or a student serving as auctioneer. This experience can be used at any level with students from any income level.

5.4 A more satisfactory decision concerning furnishing and equipment may be reached when individual or family composition, values, goals, standards, patterns of living, and resources are considered.

Performance Objective: The student is able to analyze reasons why he holds certain values.

	Your Bid	Closing Bid
1. Wallpaper for the kitchen		
2. Glass chandelier		
3. Indoor plants		
4. Two Indian handwoven baskets		
5. TV		
6. Wall to wall carpeting		
7. Hot plate		
8. Bedroom door which can be locked		
9. Iron and ironing board		
10. Shake roof		
11. Spice rack		
12. Stero		
13. Indoor bathroom		
14. Automatic washer and dryer		
15. Space to entertain friends		
16. A vacuum cleaner		
17. A place to sew or work on leather		
18. Mountain cabin		
19. Townhouse in the city		
20. Unfinished bedroom furniture		
21. Second-hand living room furniture		
22. Comfortable recliner chair		
23. Fenced yard for small children		

After the auction is held, the items which were chosen most frequently can be ascertained with the class concluding why these items were most popular. Then some students may be able to analyze orally why certain auction items would be important to them. From these items, students might then speculate the life style of the individuals wanting these items. For example, buying unfinished bedroom furniture might imply a newly married couple or a family with limited means. Students could then be asked to write down what minimum housing environment they would want at this time in terms of their values.